

**Before the
Federal Communications Commission
Washington, D. C. 20554**

In the Matter of)	
)	
Review of the Section 251 Unbundling)	CC Docket No. 01-338
Obligations of Incumbent Local Exchange)	
Carriers)	
)	
Implementation of the Local Competition)	CC Docket No. 96-98
Provisions of the Telecommunications Act of)	
1996)	
)	
Deployment of Wireline Services Offering)	CC Docket No. 98-147
Advanced Telecommunications Capability)	

REPLY COMMENTS

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BellSouth Reply
CC Docket No. 01-338
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REPLY COMMENTS

BellSouth Corporation, for itself and its wholly owned affiliated companies (collectively “BellSouth”), submits the following comments in reply to those filed in response to the *Notice of Proposed Rulemaking* in this proceeding.¹

I. INTRODUCTION AND SUMMARY { TC "I. INTRODUCTION AND SUMMARY" \f C \l "1" }

Empirical evidence demonstrates that the Commission should substantially modify its current unbundling rules. Competitive local exchange carriers (“CLECs”) currently reach 97% of all BellSouth residential access lines, and 99% of all BellSouth business lines, in the 20 metropolitan statistical areas (“MSAs”) in the South that are ranked in the top 100 nationally and in which BellSouth has a significant service presence. The number of BellSouth-served access

¹ *In the Matter of Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers; Implementation of the Local Competition Provisions of the Telecommunications Act of 1996; Deployment of Wireline Services Offering Advanced Telecommunications Capability*, CC Docket Nos. 01-338, 96-98 and 98-147, *Notice of Proposed Rulemaking*, 16 FCC Rcd 22781 (2001) (“*NPRM*”).

lines has declined in the vast majority of the 65 MSAs in which BellSouth provides service as CLECs have both captured new growth and lured away BellSouth customers, primarily in those MSAs ranked in the top 100 nationally. CLECs have aggressively deployed switches throughout the region in competition with BellSouth; the reach of CLEC switches in the 12 BellSouth MSAs among those ranked 51-100 nationally is in many cases on a par with or superior to the MSAs that are ranked in the top 50.

Fiber-based collocation, CLEC-supplied fiber, and wholesale fiber comprise three alternatives for BellSouth-supplied interoffice transport. There are 1,018 fiber-based collocators in BellSouth states, averaging 16 per MSA and one per wire center. Again, 87% of fiber-based collocators are in the MSAs ranked among the top 100 nationally. Marketplace data thus show that CLECs are not impaired, as that term is used in the Telecommunications Act of 1996, without continued access to certain unbundled network elements (“UNEs”), particularly circuit switching, dedicated transport, high capacity loops, elements for the provision of advanced services, elements used to provide wireless services, and signaling networks for the provision of services in many BellSouth MSAs.

CLECs, interexchange carriers (“IXCs”) and commercial mobile radio service (“CMRS”) providers’ comments advocate an inappropriate standard of “impairment.” These commenters consider any cost disparity between the lowest range of the total element long run incremental cost (“TELRIC”) pricing of an element and the cost of alternative provisioning of the same UNE as dispositive. They do not take into account specific geographic or customer markets or the presence of intramodal and intermodal competitive alternatives.

The United States Supreme Court, and, more recently, the United States Court of Appeals for the District of Columbia Circuit, have shown the inherent inconsistency of the expansive

positions advocated by proponents of continued and expanded ILEC unbundling obligations with the targeted implementation Congress had in mind. The Supreme Court, in vacating the UNE rules adopted in 1996, found the Commission's view far too broad, saying that under such a standard it was "hard to imagine when the incumbent's failure to give access to the element would not constitute an 'impairment.'" ² In 1999, the Commission purported to revise the 1996 rules to comply with the *AT&T* Court; however, in response to CLEC and IXC advocacy, and over the dissent of its current chairman, it determined not to give meaningful consideration to actual competitive deployments within particular markets. Instead, the 1999 Commission actually expanded the list of UNEs, thus betraying the lip service it paid in its Remand Order to the Supreme Court's guidance, and decided to make its unbundling requirements (except for two elements) applicable uniformly to all elements in every geographic or customer market.³

In response, the U.S. Court of Appeals, in remanding the 1999 *UNE Remand Order*, has shown that the Commission, in order to comply with statutory intent (as first elucidated by the Supreme Court) must take into account actual market data and give more than a rhetorical nod to the term "impairment":

It [the FCC] concluded that nothing in [*AT&T Corp. v. Iowa Utilities Board*] would require it "to determine, on a localized state-by-state or market-by-market basis which unbundled elements are to be made available." We certainly agree that the Court's brief passage reversing the Commission on the impairment issue contained little detail as to the "right" way for the Commission to go about its work. But the Court's point that if "Congress had wanted to give blanket access to incumbents' networks," it "would simply have said (as the Commission in effect has) that whatever requested element can be provided must be provided," suggests that the Court read the statute as requiring a

² *United States Telecom Association v. FCC*, 290 F.3d 415, 418 (D.C. Cir. 2002), *citing* *AT&T v. Iowa Utilities Board*, 525 U.S. 366, 389 (1999).

³ *Id.* at 419.

more nuanced concept of impairment than is reflected in findings such as the Commission's—detached from any specific markets or market categories.⁴

The initial comments of unbundling opponents and proponents were filed, of course, prior to both the recent opinion of the Supreme Court upholding the Commission's legal authority to adopt a TELRIC model for UNE pricing as well as the subsequent opinion of the D.C. Circuit Court of Appeals rejecting the 1999 Commission's attempts to define "impairment" and vacating its ILEC line sharing requirements. Opponents of the status quo, such as BellSouth, argued both that market developments indicated that the need for some UNEs no longer existed in certain markets under any rational definition of "impairment" and that the continued availability of UNEs at currently constituted TELRIC pricing in those markets had negative impacts on facilities-based competition in general and on ILEC investment in particular. Proponents of continued and expanded unbundling, such as AT&T, argued that the costs of duplicating ubiquitous ILEC networks, particularly costs allegedly attributed to ILECs themselves in the context of fulfilling their interconnection obligations, constitutes an impairment that necessitates continued unbundling. They argued that the existence of both CLEC and ILEC investment concurrent with TELRIC pricing demonstrated the benign affect of TELRIC pricing on investment and facilities-based competition. The positions of BellSouth and other advocates of a more targeted impairment analysis and a more reasoned application of TELRIC pricing are supported by both recent decisions; while the case for proponents of continued unbundling, weak in facts, is not helped by the *Verizon* decision and is significantly undermined by the *USTA* decision.

⁴ *Id.* at 425-26 (citations omitted).

The factual assertions of costs related to alleged ILEC-imposed delays in fulfilling interconnection facilities are wrong and are rebutted herein, at least to the extent that they are specifically directed to BellSouth. BellSouth shows that these allegations are at best exaggerated, and at worst, contrived. Moreover, BellSouth demonstrates that market data contained in the *2002 UNE Fact Report* and provided with this Reply demonstrate the ability of CLECs to self-provision alternatives to several ILEC UNEs in specific geographic markets. In light of the Court of Appeals decision, this Commission must undertake a more targeted impairment analysis that takes into account this data and these defined markets and implement the statute in the way intended by Congress by phasing out the list of UNEs that has been in place for nearly six years.

Attached to and incorporated in these reply comments are six additional submissions including Reply Declarations prepared by expert economists that analyze the empirical evidence submitted in the record in the initial comment round and respond to key arguments advanced by unbundling proponents. First, the economists of National Economic Research Associates (“NERA”) demonstrate that, notwithstanding assertions to the contrary, (1) intermodal competition has and will continue to constrain perceived advantages of wireline incumbency;⁵ (2) CLECS are able to serve mass market customers without the continuing availability of UNEs;⁶ (3) cost differentials between ILECs and CLECs are an insufficient measure of impairment;⁷ (4) competition based on the UNE-P neither maximizes consumer benefits nor

⁵ Reply Declaration by National Economic Research Associates, Inc., July 17, 2002, attached as Attachment 1, at 8-26 (“NERA Reply Decl.”).

⁶ *Id.* at 27-33.

⁷ *Id.* at 34-39.

leads to facilities investment by CLECs;⁸ (5) competition and investment are not negatively impacted by the Commission's current "switching carve-out" policy or by increases in UNE pricing;⁹ (6) unbundling proponents do not carry their burden of showing that they are impaired without access to ILEC loop, switching and transport UNEs;¹⁰ and (7) CMRS carriers are not impaired without ILEC dedicated transport UNEs.¹¹ Critically, NERA shows that the empirical evidence in the record, and in particular data specific to BellSouth, support substantial relaxation of current unbundling rules for ILEC network elements, particularly switching, dedicated transport and loops.¹² NERA also points out procedural flaws in economic analyses presented by AT&T and Z-Tel.¹³

The Reply Declarations of NERA and Professor Howard Shelanski (Professor Shelanski's declaration being the second attachment) provide an analytical framework for an impairment analysis that accords with economic theory and the decision of the D.C. Circuit Court of Appeals. Like NERA, Professor Shelanski also demonstrates the danger in an over-inclusive unbundling policy, that is, a policy that requires or allows continued unbundling at TELRIC pricing even in the absence of impairment, and refutes CLEC arguments pertaining to investment, efficiency and the economic propriety of unbundling.¹⁴

The third attachment, the Reply Declaration of Professor Emeritus Robert G. Harris of the Law and Economics Consulting Group ("LECG"), contains a business case analysis of

⁸ *Id.* at 40-45.

⁹ *Id.* at 46-60.

¹⁰ *Id.* at 61-109.

¹¹ *Id.* at 110-129.

¹² *Id.* at 5, 61-109.

¹³ *Id.* at 47-60.

¹⁴ See Reply Declaration of Howard A. Shelanski, attached as Attachment 2, *passim* ("Shelanski Reply Decl.").

Regional Bell Operating Company (“RBOC”) investment in infrastructure improvements to enable the delivery of broadband accesses via digital subscriber line (“DSL”) technology over their telephone networks that assess the financial returns for DSL investments and the sensitivity of those returns to possible changes in market penetration and regulatory requirements.¹⁵

Professor Harris also replies to the comments filed by several parties as they relate to broadband services, as well as certain issues raised by Dr. Cerf of WorldCom in a subsequent letter to Chairman Powell and Commerce Secretary Evans. Dr. Harris demonstrates that the markets for broadband access are competitive and becoming more so,¹⁶ that asymmetric regulation of the RBOCs’ DSL services undermines broadband investment and facilities-based competition;¹⁷ that the recent OECD Broadband Report has limited applicability in the United States, given the substantial differences across OECD countries in cable penetration and ownership and the overall development of cable and the domination of cable modem service in the domestic broadband access market;¹⁸ and how both the Supreme Court’s recent TELRIC decision and the Court of Appeals’ recent “impairment” decision should inform the Commission’s unbundling policy as it relates to advanced services on a going forward basis.¹⁹

The declarations of NERA, Professor Shelanski and LECG demonstrate, notwithstanding the Commission’s authority to adopt TELRIC as one among several legally sustainable pricing models for UNEs, that as a matter of economics and competition policy, TELRIC pricing, particularly at the lower end of the range, discourages maximum facilities investment and creates

¹⁵ Reply Declaration of Professor Robert G. Harris, attached as Attachment 3, at 3, ¶ 3 and attach. 2 (“Harris Reply Decl.”).

¹⁶ *Id.*, Section II.

¹⁷ *Id.*, Section IV.

¹⁸ *Id.*, Section III.

¹⁹ *Id.*, Section V.

market distortions. BellSouth's final three attachments present additional empirical evidence in support of relaxing current unbundling requirements: "UNE Platforms and Investment," a regression analysis performed by Evan T. Leo, author of the 2002 UNE Fact Report, demonstrating that UNE-P does not encourage ILEC investment, contrary to AT&T's assertion; a report on the widespread availability of CLEC circuit switching alternatives, prepared by Dr. Charles L. Jackson; and the Affidavit of Kenneth L. Ainsworth and W. Keith Milner that describes BellSouth's capability to handle increased hot cut volumes that might result from further relief from unbundled switching obligations.

II. THE SUPREME COURT'S DECISION UPHOLDING THE FCC'S ABILITY TO SELECT A TELRIC PRICING MODEL FOR UNES AND THE SUBSEQUENT COURT OF APPEALS DECISIONS REMANDING THE COMMISSION'S 1999 IMPAIRMENT ANALYSIS FOR UNES ARE COMPATIBLE.{ TC "II. THE SUPREME COURT'S DECISION UPHOLDING THE FCC'S ABILITY TO SELECT A TELRIC PRICING MODEL FOR UNES AND THE SUBSEQUENT COURT OF APPEALS DECISIONS REMANDING THE COMMISSION'S 1999 IMPAIRMENT ANALYSIS FOR UNES ARE COMPATIBLE." \f C \l "1" }

Undoubtedly, some unbundling proponents will argue that the D.C. Circuit Court of Appeals "Impairment decision" was incorrectly decided and is even inconsistent with the Supreme Court's earlier "TELRIC decision."²⁰ The Commission need not, and should not, give weight to such arguments. In *Verizon*, the Supreme Court, upholding the Commission's legal authority to pick TELRIC over alternative methods under the *Chevron* doctrine, itself noted that, "[w]e cannot say whether the passage of time will show competition prompted by TELRIC to be an illusion, but TELRIC appears to be a reasonable policy for now, and that is all that counts. . . . In short, the incumbents have failed to carry their burden of showing unreasonableness to defeat

²⁰ Communications Daily, June 4, 2002 at 1.

the deference due the Commission.”²¹ The Supreme Court did nothing more than to uphold the legality of TELRIC as one of several pricing options the Commission could have adopted, demonstrating (in some detail) that each of the ILEC arguments against TELRIC generally were insufficient to overcome the presumption of deference owed the Commission on appellate review. These determinations do not foreclose the Commission from considering the economic effects and wider policy implications of TELRIC pricing for any UNE, particularly those that are not bottleneck facilities or that have hitherto not been identified by the Commission under its two earlier impairment analyses.²² The Commission can and should give careful consideration to demonstrations of the negative affects of promiscuous TELRIC pricing, including the concerns articulated by Justice Breyer.²³ Thus, both the Supreme Court and the D.C. Circuit Court of Appeals have established statutory limitations on the Commission’s discretion to find “impairment” and a resulting mandatory unbundling obligation, but both have left the Commission free to make relevant policy determinations within those statutory limitations,

²¹ *Verizon Communications Inc. v. FCC*, 122 S.Ct. 1646, 1678-79 (2002), citing *Chevron U.S.A. Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837, 866 (1984).

²² Even in the context of addressing the separate issue of the appropriate pricing methodology for whatever elements must be unbundled, the *Verizon* Court repeatedly stated that those elements that are properly unbundled are necessarily limited. The Court repeatedly referred to “bottleneck elements,” “bottleneck facilities,” “facilities that are very expensive to duplicate (say, loop elements)” and “some costly-to-duplicate elements [that are] necessary to provide a desired telecommunications service.” *Verizon v. FCC*, 122 S.Ct. at 1672 & n.27. See also letter from Michael K. Kellogg, Kellogg, Huber, Hansen, Todd & Evans, P.L.L.C., to the Honorable Theodore B. Olson, Solicitor General, United States Department of Justice, dated June 26, 2002.

²³ *Verizon v. FCC*, 122 S. Ct. at 1688. As Professor Shelanski notes, whatever the relevance of the majority’s observation might be for the legal validity of TELRIC, it has no bearing whatsoever on the economic propriety of unbundling. The correct economic question for unbundling is not the extent to which it interferes with facilities-based competition, but the extent to which it is necessary to overcome competitive impairment for CLECs that is created by specific incumbency advantages of the ILECs. Both Professor Shelanski and NERA demonstrate that the co-existence in a given market between facilities-based and UNE-based entrants works against claims of necessity for regulated unbundling. See Shelanski Reply Decl., ¶¶ 6-12; NERA Reply Decl. at 11-15.

including the appropriateness of TELRIC pricing in light of six years of marketplace data on a going-forward basis.²⁴

The *USTA* Court's most recent remand contains important guidance for the Commission in the context of the *Triennial Review*. According to the Court, the Commission did not give adequate consideration to the market reality that there are certain markets where prices are constrained by state regulation and where competition is unlikely to occur.²⁵ The Commission must consider the advantage CLECs enjoy in being free of any duty to provide under-priced service to rural and/or residential customers and thus of any need to make up the difference elsewhere.²⁶ Other, equally critical, points are made in the opinion:

- Differentiated (or “partial”) national unbundling rules are sustainable;
- The Commission is capable of making market differentiations;
- Adding to the list of UNEs is not deregulatory, even if offered with “the carrot of subtraction;”
- The Commission must take into account incentive and disincentive effects of TELRIC pricing; and
- A nuanced concept of impairment requires a consideration of specific markets or market categories.²⁷

It is clear that the positions advocated by BellSouth and other ILECs are by and large consistent with the recent judicial clarifications of the statutory limitations of the Commission's discretion to order unbundling, as well as with the public statements of the 2002 Commission and the general thrust of the *NPRM* to adopt a more granular approach to an impairment analysis based on actual market place data. As Chairman Powell explained, the D.C. Circuit decision

²⁴ The FCC had already determined to consider the issues raised in the *UNE Remand Order* on a going forward basis regardless of the status or outcome of the pending appeals. *NPRM*, ¶ 16 & n. 48.

²⁵ *USTA v. FCC*, 290 F.3d at 422.

²⁶ *Id.* at 423.

²⁷ *Id.* at 426.

merely “directs the Commission to undertake a more focused examination of the Act's unbundling obligations.”²⁸ This direction is consistent with the Commission’s proposal to take a “more granular” approach to the issues surrounding unbundling in this *Triennial Review* proceeding.²⁹

III. CLECS ARE NOT IMPAIRED WITHOUT ACCESS TO BELL SOUTH SWITCHING, INTEROFFICE TRANSPORT, HIGH CAPACITY LOOP AND SIGNALING ELEMENTS IN CERTAIN METROPOLITAN MARKETS IN BELL SOUTH STATES.{ TC "III. CLECS ARE NOT IMPAIRED WITHOUT ACCESS TO BELL SOUTH SWITCHING, INTEROFFICE TRANSPORT, HIGH CAPACITY LOOP AND SIGNALING ELEMENTS IN CERTAIN METROPOLITAN MARKETS IN BELL SOUTH STATES." \f C \l "1" }

The UNE Fact Report 2002, submitted on behalf of BellSouth, SBC Communications, Inc. (“SBC”), Qwest Corporation (“Qwest”) and Verizon Telephone Companies (“Verizon”) makes a persuasive empirical case for the proposition that, in the three years since the last Commission review of unbundling rules, feasible alternatives to ILEC network facilities have become available in many areas.³⁰ The NERA Reply Declaration demonstrates further evidence specific to the nine states in the BellSouth region, disaggregating the facts presented in the 2002 Fact Report to relevant markets within these states.³¹

A. The Appropriate Geographic Market Is the MSA.{ TC "A. The Appropriate Geographic Market Is the MSA" \f C \l "2" }

As the NERA economists demonstrate, the geographic granularity sought by the Commission can be helpful for defining the market within which an impairment analysis should

²⁸ *Statement of FCC Chairman Michael Powell on the Decision by the Court of Appeals for the District of Columbia Regarding the Commission’s Unbundling Rules*, FCC News Release (May 24, 2002).

²⁹ *NPRM*, ¶¶ 34-35.

³⁰ NERA Reply Decl. at 76.

³¹ *Id.*

be conducted, and there are sound reasons for distinguishing among service characteristics when conducting such an analysis.³² The metropolitan area (such as an MSA) is the most reasonable geographic market for impairment analysis.³³ Because CLEC-deployed switches reach 97% and 99% of all BellSouth residential and business access lines, respectively, in the 20 MSAs in the BellSouth region ranked in the top 100 nationally, there appear to be few, if any, policy consequences to justify any significant effort to achieve granularity with respect to customer characteristics.³⁴ Finally, negligible market demand obviates the need to take into account the capacity level of unbundled transport in any impairment analysis.³⁵

B. The Proper Test for Impairment { TC "B. The Proper Test for Impairment"
 \f C \l "2" }

Once the UNE market is properly defined, impairment should be tested by asking whether a reasonably efficient CLEC retains the ability to compete even without access to the

³² *Id.* at 75.

³³ *Id.* at 57. *See generally* NERA's response to various CLEC responses to the Commission's request for comments on its interest in evaluating the unbundling requirements at a greater level of granularity than ever before, *id.* at 47-60. NERA demonstrates why the 1973 "game theory" article on which Allegiance bases its "four non-ILEC sources of supply" bright-line test has little practical value with regard to UNEs, *id.* at 69-71; why WorldCom's argument that selective unbundling relief in high density areas could jeopardize the ability of CLECs to serve mass market customers is a thinly-veiled effort to get the Commission to declare the entire country as the proper geographic market for UNEs, *id.* at 63-64, 71-75 and Tables 5-6; and how the Commission's earlier statement of its "ubiquity" criterion is at odds with an appropriately contained UNE market definition, *id.* at 68-69.

³⁴ *Id.* at 73-74, Table 6 "Average Reach of CLEC-Deployed Switches in RBOC-Served Wire Centers in Top 100 MSAs, By Type of Customer" (showing that in 20 MSAs in the BellSouth region that are ranked in the top 100 nationally, 97% of all BellSouth residential access lines and 99% of all business access lines are served by one or more CLEC switches; 86% of all residential access lines and 92% of all business access lines are served by 4 or more CLEC switches). As NERA explains, "CLECs can, in principle, reach significant percentages of RBOC-served access lines used by residential customers; if they do not actually do so, the explanation may lie with their business decisions, not impairment."

³⁵ *Id.* at 75-76.

UNE.³⁶ Thus, given the data on record in the 2002 *Fact Report*, a CLEC faces a two-step demonstration, for which it must have the burden of proof. First, a CLEC must demonstrate that it is “reasonably efficient.” Second, it must show that it has been denied the opportunity to provide local exchange service in competition with the ILEC because the requisite network elements are not available from alternative sources.³⁷ The 2002 *Fact Report* demonstrates that no “denial of opportunity” problem exists with respect to even mass-market customers in the top 100 MSAs nationwide; the localized data for BellSouth in these markets are even more persuasive.³⁸ There are 65 MSAs in BellSouth’s nine state region, 21 of which are in the top 100 nationally and 20 of which have a major BellSouth service presence. BellSouth presents additional empirical evidence at a greater level of granularity for all of its MSAs in this Reply and its attendant declarations to demonstrate that CLECs are not impaired with respect to a number of currently constituted UNEs in a significant number of local markets.

C. CLECs Are Not Impaired Without Access to Loops. { TC "C. CLECs Are Not Impaired Without Access to Loops." \f C \l "2" }

The number of BellSouth-served access lines has declined in the vast majority of the 65 MSAs within the BellSouth region, reflecting a general trend that the Commission has

³⁶ *Id.* at 75, quoting Z-Tel Comments “[A granular impairment] analysis must include consideration of the market the CLEC seeks to serve and the nature of the services its seeks to provide, and it is entirely appropriate to consider the needs of a reasonably efficient competitor rather than a particularly inefficient competitor.”

³⁷ *Id.* In its Comments, BellSouth sought to demonstrate how the language employed in the 1999 *UNE Remand Order*, though susceptible of an overbroad definition of impairment, was at least compatible with a more granular and legally sustainable definition of impairment. In light of the *USTA* case, and the clear signal that the 1999 *UNE Remand Order* did not comport with the Supreme Courts earlier reversal, BellSouth advocates that the Commission adopt the principles of impairment advocated by NERA and Professor Shelanski on a going forward basis. See NERA Reply Decl. at 29-30.

³⁸ See NERA Reply Decl. at 72, 74, Tables 5 and 6 extracting and comparing BellSouth data with overall RBOC ILEC data.

observed.³⁹ BellSouth's only access line gains since the effective date of the *UNE Remand Order* were concentrated in the smallest MSAs and the non-MSA (rural) areas of the South. These gains were not enough to offset BellSouth's direct loss in all 65 MSAs of 9% of all business lines and 6% of all residential access lines (13% of all business lines and 7% of all residential lines in the top 10 MSAs) during the same period.⁴⁰ Because BellSouth had projected 5% growth in access lines in the top 10 MSAs, and 3% growth in the remaining 55 MSAs, the resultant effective BellSouth access line counts were down 22% for business and 16% for residential.⁴¹ CLECs have captured a combination of new growth and existing base in such amounts as to significantly increase their burden of demonstrating that the continued availability of UNEs is justified.

As indicated above, the data show that CLEC penetration has been greatest in the 20 BellSouth MSAs that are ranked among the top 100 nationally.⁴² NERA has measured the intensity of CLEC entry by the number of CLECs per resident person (rather than simply by the number of CLECs in any given MSA) in order to adjust for size differences among MSAs. In graphing the cumulative percentage of CLECs per capita against the cumulative percentage of BellSouth MSAs, NERA demonstrates that the bottom 30% of BellSouth's MSAs account for only about 10% of the CLECs that have entered, while the top 30% account for more than 50%. Moreover, in graphing cumulative percentage of CLEC-ported numbers against the same observation unit (cumulative percentage of BellSouth MSAs), NERA shows that the bottom 40% of BellSouth MSAs account for only 10% of CLEC-ported numbers while the top 20% of MSAs

³⁹ *Id.* at 77.

⁴⁰ *Id.* at 78-79, Tables 7 & 8.

⁴¹ *Id.* at 77.

⁴² *Id.* at 81.

account for more than 50% of all ported numbers. That a disproportionately small number of the BellSouth MSA “observation unit” accounts for a disproportionately large unit of the measured variable (CLECs per capita, CLEC ported numbers) is depicted visually by means of a Lorenz Curve, bowed beneath a 45 degree “line of no inequality.” The corresponding Gini Coefficient values demonstrate that there is an apparent greater skew in the distribution of CLEC-ported numbers by BellSouth MSA than in the distribution of CLECs themselves, confirming the general finding that CLECs have competed for subscribers more intensely in the largest MSAs in the BellSouth region.⁴³

1. AT&T’s Performance Complaints Are Not Persuasive.{ TC "1.

AT&T’s Performance Complaints Are Not Persuasive." \f C \l "3" }

In AT&T’s *ex parte* meeting of April 18, 2002 with Chairman Powell and Kyle Dixon of the FCC, AT&T discussed its preference for UNE-P rather than a UNE loop connected to a CLEC’s switch. AT&T cited several performance measurements as a major part of their rationale for advocating UNE-P.⁴⁴

However AT&T’s data alleging poor performance results bears no resemblance to the actual results in BellSouth’s territory. As a result, their rationale is completely flawed and should be viewed as nothing more than a misguided attempt to justify the continued use of deeply discounted resale services (under the guise of UNE-P), thereby avoiding an investment in plant and equipment.

The following table displays AT&T’s data for performance on UNE Loops and the actual performance for UNE Loops in BellSouth’s 9 state territory:

⁴³ *Id.* at 81-85; Figures 1 & 2.

⁴⁴ Letter from Leonard J. Call, AT&T, to Marlene H. Dortch, Secretary, FCC, dated April 19, 2002, in CC Docket No. 96-98.

AT&T Measurement	AT&T Data from April 19, 2002 letter	Corresponding BellSouth Measurement	Actual results – BellSouth’s 9 state area, 2001
Service Interval (POS to Dial Tone)	45 days	Total Service Order Cycle Time	5 days
Rate of Service Interruption	6-9%	Customer Trouble Report Rate	2%
Mean Time to Repair Service Interruption	15 to 35 hours	Maintenance Average Duration	8 hours
Trouble Tickets Per Order	5-9%	Provisioning Troubles within 30 days of Service Order	3%

(i) Service Interval{ TC "(i) Service Interval" \f C \l "4" }

The first measurement cited by AT&T is Service Interval, presumably measured from the time the order is submitted by AT&T to an ILEC until the time the service (or dial tone) is delivered to the customer. AT&T states that, for the period 1999-2000, this process required 45 days. AT&T does not indicate whether this 45-day interval is an average for the entire country for the two-year period or if it is simply the worst example of a single order installation that AT&T could find.

BellSouth has a corresponding measurement for this time interval, “Total Service Order Cycle Time” (“TSOCT”). TSOCT captures the time interval from the receipt of the order by BellSouth until the service (or dial tone) is delivered to the customer. During 2001, BellSouth delivered service for UNE Loops in an average of five days across all nine states. These actual results are so different from AT&T’s figures that one has to question if the AT&T number is missing a decimal point between the 4 and the 5.

(ii) Rate of Service Interruption{ TC "(ii) Rate of Service Interruption" \f C \l "4" }

The second measurement noted by AT&T appears to be the number of troubles reported by the customer as a percentage of UNE Loops in service. Once again, AT&T's figures, 6-9% in this case, lack the information necessary to determine whether the entire nation experienced service interruptions in the 6-9% range for two years, or if this was the range of the worst month during that two-year period.

BellSouth tracks service interruption through a measurement it calls "Customer Trouble Report Rate." This value is simply the number of troubles reported expressed as a percentage of UNE Loops in service. BellSouth's actual result for UNE Loops for the year 2001 for all nine states was 2%. Once again, BellSouth's actual results are substantially different from the unsubstantiated facts alleged by AT&T.

(iii) Mean Time to Repair Service Interruption{ TC "(iii)Mean Time to Repair Service Interruption" \f C \l "4" }

AT&T implies that it takes between 15 and 35 hours to repair a trouble on a UNE Loop once it has been reported. BellSouth's equivalent performance metric is entitled "Maintenance Average Duration." BellSouth's actual experience in 2001 shows that it took an average of eight hours to clear a UNE Loop trouble from the time the trouble was accepted by BellSouth, across the entire nine-state BellSouth territory, nearly half of what AT&T represents to be the low end of its data point.

(iv) Trouble Tickets Per Order{ TC "(iv) Trouble Tickets Per Order" \f C \l "4" }

AT&T alleges that between 5% and 9% of AT&T's orders for UNE Loops experience a trouble report resulting in a trouble ticket. BellSouth's corresponding measurement for the

quality of the installation process is "Provisioning Troubles Within 30 days of Service Order." This metric expresses the number of trouble reports that occurred within 30 days of service order activity as a percentage of the number of service orders over the preceding calendar month. Based on BellSouth's actual results, an average of 3% of the service orders for UNE Loops had trouble reports during 2001. Once again, BellSouth's actual results are substantially different from the results alleged by AT&T.

(v) Summary{ TC "(v) Summary" \f C \l "4" }

AT&T's data is presented with little detail regarding the source or even the meaning of the information. It is impossible to tell whether the data are intended to represent national averages or simply selected (and perhaps isolated) instances. However, it is certain that AT&T's data does not represent the experiences of the CLECs in BellSouth's territory. In contrast to AT&T's data, which have little or no credibility, BellSouth's data are verifiable and accurate. It comes from a measurements reporting process that has been audited by KPMG for nearly three years. Furthermore, AT&T's data are stale. The most recent data point is December 2000, nearly one and a half years old, and the earliest data point, January 1999, is three and a half years old and predates the effective date of the *1999 UNE Remand Order* by nearly a year. This *Triennial Review* is meant to consider developments in the marketplace after the effective date of the *UNE Remand Order*, not a reexamination of what went on before.

2. The Commission Should Not Revise Its Loop Definition{ TC "2.The Commission Should Not Revise Its Loop Definition" \f C \l "3" }.

AT&T argues in its comments that the Commission should revise the definition of the loop to include DSLAM functionality.⁴⁵ The DSLAM functionality should not be listed as a

⁴⁵ AT&T Comments at 64, 170.

part of the loop. This functionality is not a simple transmission facility as AT&T implies. Rather, it provides the signaling, packet switching, and other functionalities necessary to provide DSL service. The Commission has already considered and specifically excluded the DSLAM as a part of the loop. Given the fully competitive nature of the advanced services market, there is no reason to reconsider this determination. While the Next Generation Digital Loop Carrier (“NGDLC”) is a part of the network that may or may not be used to provide voice grade loops, the Dual Line Cards that go into some NGDLC systems provide DSLAM functionality. This functionality, and hence Dual Line Cards that provide this functionality in the NGDLC, should continue to be excluded from the definition of the loop.⁴⁶ The Commission similarly should reject the arguments of WorldCom and New South advocating that multiplexers (“MUXs”) should be considered a part of the loop as “attached electronics.”⁴⁷ Such characterization of a multiplexer as attached electronics is incorrect. Nor should the definition of a loop be defined in terms other than point to point transport.

3. ILECs Are Not the Only Source of High Capacity Loops.{ TC "3.

ILECs Are Not the Only Source of High Capacity Loops." \f C \l "3" }

Contrary to the Associate of communications Enterprises’ (“ASCENT”) claim to the contrary, BellSouth is unaware of any UNE-P offerings that include high capacity loops. As the NERA economists explain, there simply has not been any meaningful demand for high capacity

⁴⁶ For the same reasons, the Commission should reject WorldCom’s advocacy. WorldCom Comments at 118-19. WorldCom claims that both the NGDLC and DSLAM should be unbundled unless an end-to-end NGDLC loop is required. Again, NGDLC can be used to provide a loop but the Dual Line Card or any other such DSLAM equipment should not be required because that would be providing an advanced service to the CLEC. In any event, in the 1999 *UNE Remand Order*, the Commission required subloop unbundling and remote terminal (“RT”) collocation so that CLECs could get access to the copper distribution facility and place their DSLAM at the RT. If ILECs were required to provide DSLAM functionality as a UNE, the corresponding subloop requirement should be eliminated.

⁴⁷ WorldCom Comments at 114; NewSouth Comments at 19-20, 24-25.

facilities, thus rendering the distinction between high capacity and voice grade loops in the top 100 MSAs insubstantial from a policy perspective for the purpose of an impairment analysis.⁴⁸ ASCENT claim that ILECs are the only ubiquitous source for high capacity loops is wrong as a factual matter,⁴⁹ and the argument should be rejected as a matter of policy, especially in light of the *USTA* decision.⁵⁰ The fact remains that there are alternative providers and especially in the metro areas CLECs are not impaired if high capacity loops are not available as UNEs. A targeted impairment analysis must take into account both the empirical evidence of alternative sources of supply in top markets as well as reject the concept of ubiquity that as a practical matter results in an overbroad product market.⁵¹

Finally, Covad is incorrect when it states categorically that CLECs must deploy transmission facilities to the central office in order to access DS1 loops.⁵² With the EEL, the CLEC can get a high capacity circuit all the way to their point of interconnection. However, BellSouth opposes the CLECs' contention that the Commission should establish the EEL as a stand-alone UNE. While the Commission's legal authority to require combinations is no longer an issue, the Commission must still undertake a targeted impairment analysis for any UNE it established. CompTel is simply wrong when it states that if any part of a UNE combination satisfies the impairment standard, then the entire combination qualifies for TELRIC pricing.

⁴⁸ NERA Reply Decl. at 75-76.

⁴⁹ See 2002 UNE Fact Report, Section IV.

⁵⁰ *USTA v. FCC*, 290 F.3d at 422.

⁵¹ See NERA Reply Decl. at 68-69 for discussion of the problem of the Commission's definition of ubiquity.

⁵² Covad Comments at 50-51.

Such a policy position guts the impairment standard of any meaning and creates market-distorting opportunities.⁵³

⁵³ NERA Reply Decl. at 32 & Section IIIF.

D. CLECs Are Not Impaired Without Access to Circuit Switching.{ TC "D. CLECs Are Not Impaired Without Access to Circuit Switching." \f C \l "2" }

The record evidence makes clear that, of all UNEs, CLECs have succeeded most in developing feasible alternatives for ILEC switching facilities.⁵⁴ Indeed, in BellSouth's region, the data show that the Commission's existing "switching carve-out" may now be extended to markets larger than density zone one in the top 50 MSAs. In BellSouth's region CLECs have actually deployed voice switches even more aggressively in MSAs ranked between 51 and 100 nationally than in those that are ranked in the top 50 nationally.⁵⁵ The reach of CLEC switches in the 12 BellSouth MSAs among those ranked 51-100 nationally is in many cases on a par with or superior to the remaining MSAs that are ranked in the top 50.⁵⁶

1. Switch Providers Demonstrate Viable Alternatives Exist.{ TC "1. Switch Providers Demonstrate Viable Alternatives Exist." \f C \l "3" }

Available evidence further suggests that CLECs increasingly have economically viable alternatives to ILEC switching. First, self-provisioning of switching is becoming more economically viable. CLECs are not constrained by the placement of switches as they exist in the ILECs' legacy networks. Thus, CLECs are free to strategically place fewer switches that serve geographical areas larger than those traditionally served by ILEC switches.⁵⁷ CLECs, in various state proceedings, have publicly acknowledged the expansive geographic reach of CLEC switches.

AT&T offers local exchange service in Tennessee via 4ESS switches, which function primarily as long distance switches, and

⁵⁴ *Id.* at 85.

⁵⁵ *Id.*

⁵⁶ *Id.* at 87.

⁵⁷ Charles L. Jackson, "CLECs' Choices for Local Switching," July, 2002, attached as Attachment 5, at 6 ("Jackson paper").

5ESS switches, which act as adjuncts to the 4ESS switches. AT&T has the ability to connect virtually any qualifying local exchange customer in Tennessee to one of these switches through AT&T's dedicated access services.⁵⁸

AT&T is justified in its request because the geographical area covered by each of its switches is comparable to the area covered by BellSouth's tandem switches.⁵⁹

It is important to note that in some cases, the AT&T switch serving a LATA is not physically located in the LATA.⁶⁰

ICG, like many new entrant CLECs, generally deploys its individual switches to cover a large geographic area served by a common transport network. The advent of fiber optic technologies and multi-function switching platforms have, in many cases, allowed carriers like ICG to serve an entire statewide or LATA-wide customer base from a single switch platform. Likewise, the ability to aggregate unbundled loops from collocations within a number of ILEC central offices while transporting that traffic to a single location allows these carriers to originate, switch and terminate traffic between callers located many miles apart with a single switch.⁶¹

WorldCom uses state-of-the-art equipment and design principles based on technology available today. Their local network has been built within the past few years using optical fiber rings with SONET transmission, which makes it possible to access and serve a large geographic area from a single switch.⁶²

WorldCom is currently providing local service to customers located in all but 4 of these 26 rate centers. While WorldCom uses 4 local switches and a transport network to serve these rate centers,

⁵⁸ See Direct Testimony of Gregory R. Follensbee, TN Docket No. 00-00079 at 41 (dated December 20, 2000) (emphasis added).

⁵⁹ *Id.*

⁶⁰ *Id.* at 42.

⁶¹ See Prefiled Direct Testimony of Michael Starkey, NC Docket No. P-582, Sub 6 at 21 (dated May 27, 1999); *see also* Direct Testimony of Michael Starkey, LA Docket No. U-24206 at 24 (dated September 3, 1999) (emphasis added).

⁶² See Prefiled Rebuttal Testimony of Don Price, GA Docket No. 11901-U at 48 (dated August 3, 2000) (emphasis added).

BellSouth utilizes 5 local tandems and a multitude of end offices to serve this area.⁶³

Technological innovation in switch design and reduced costs of traffic back-haul facilitate a requirement for fewer CLEC switches.⁶⁴ This, too, has been acknowledged by CLECs.

However, with the advent of relatively inexpensive fiber optic transport facilities and the enormous switching capacity available in today's switching platforms, the economics of the switch/transport tradeoff have changed. CLECs today are able to perform many of the same functions with a single switch that may be performed by at least two switches in the BST network.⁶⁵

In fact, it is now possible to place remote switches up to 2,000 miles from host switches.⁶⁶ Second, the cost of switches has declined dramatically over the last decade, and it continues to decline. At the same time, the scalability and functionality of new switches continues to increase.⁶⁷ An example of such a switch, manufactured and offered by Taqua, Inc., is discussed below and in the Jackson paper.⁶⁸ Third, a wholesale market for switching from non-ILEC sources of supply has developed.⁶⁹ Unwarranted unbundling obligations for local switching might well force the elimination of this market and frustrate efforts to achieve objectives of the Commission and Congress to promote facilities-based competition employing alternatives to ILEC network facilities.

⁶³ *Id.* at 49.

⁶⁴ Jackson paper at 14-17.

⁶⁵ See Prefiled Direct Testimony of Michael Starkey, NC Docket No. P-582, Sub 6 at 24 (dated May 27, 1999); see also Direct Testimony of Michael Starkey, LA Docket No. U-24206 at 27 (dated September 3, 1999).

⁶⁶ Jackson paper at 11.

⁶⁷ *Id.* at 6-10.

⁶⁸ *Id.* at 9.

⁶⁹ *Id.* at 22-24.

Taqua, Inc. is a provider of alternatives to legacy telecommunications networks and equipment that reduce the cost of upgrading existing equipment and the cost of entry into the telecommunication market, while increasing service flexibility for telecommunications.⁷⁰ The Open Compact Exchange ("OCX") switch product permits resellers and new entrants in the CLEC market to provide class 5 services directly to their customers over their own facilities at vastly lower costs than purchasing a class 5 switch with upgrades or leasing facilities from ILECs.⁷¹ The economic benefits and scalability of the OCX switch allows existing facilities-based CLECs and independent telephone companies operating in larger markets to expand their facilities-based-services to smaller markets.⁷²

2. Collocation Allegations Do Not Apply to BellSouth.{ TC "2.
Collocation Allegations Do Not Apply to BellSouth." \f C \l "3" }

CLEC arguments about alleged collocation problems are not persuasive. Currently, there are only three central offices on BellSouth's space exhaust waiting list. Therefore, out of 1,603 wire centers available for collocation in BellSouth's region, available collocation space exists in all but three of BellSouth's central offices. If a CLEC wishes to request collocation space, it need only submit an application to BellSouth indicating its specific space needs. BellSouth will review the application, determine if space is available, and notify the CLEC within ten (10) calendar days of the availability of space.

This quick response enables the CLECs to determine if they should proceed with collocation in the requested office or make other plans to collocate in a different office or location.

⁷⁰ Comments of Taqua, Inc. at 2.

⁷¹ Taqua Comments at 3.

⁷² *Id.*; see pages 5 and 6 of Taqua Comments for description of cost, phased growth, diversity of application.

The space preparation costs for a CLEC to collocate in a BellSouth central office have changed from a non-recurring/recurring rate structure to one that is now primarily recurring. In other words, CLECs do not have to expend large amounts of upfront capital to collocate in a BellSouth office. Instead, monthly recurring charges are assessed to the CLECs for the costs of conditioning the space for collocation. This change has been adopted by state public service commissions because it enables many smaller CLECs to effectively operate within a competitive marketplace.

In addition to changing practically all of its space preparation rates to a monthly recurring rate structure, BellSouth has moved other elements from a non-recurring/recurring rate structure to a monthly recurring rate structure. These "standard rates" have been available for adoption by all CLECs on a state-specific basis through amendment to the CLEC's existing agreement. Finally, BellSouth continues to monitor its cost methodology to ensure the accuracy of the costs associated with performing necessary collocation activities. Overall, the rates for collocation have declined over the past three years.

3. BellSouth Collocation Practices Are Non-Discriminatory{ TC "3.

BellSouth Collocation Practices Are Non-Discriminatory" \f C \l "3" }.

AT&T's general complaints about ILEC collocation discrimination are insufficient to demonstrate that BellSouth has not acted properly. There are sufficient safeguards in place to assure that no such discrimination occurs. BellSouth offers physical collocation to CLECs through an Interconnection Agreement, pursuant to a state tariff, or pursuant to a state approved SGAT. Virtual collocation is offered pursuant to a federal tariff.⁷³ Regardless of the mechanism, collocation is offered with the general requirement that the parties agree to comply

⁷³ There is also a virtual collocation tariff filed in Florida; *see* BellSouth Telecommunications, Inc. Florida Access Service Tariff § E20.1 (effective July 15, 1996).

with all applicable federal, state and/or local laws, ordinances, rules and/or regulations. Over the years, BellSouth has modified its Standard Interconnection Agreement and the other documents noted above, as necessary, to comply with all applicable provisions of state and federal law and the requirements of the FCC and state public service commissions. This agreement is used as a starting point in negotiations with CLECs, and all terms and conditions are subject to negotiation and change through mutual agreement.

In addition, every Interconnection Agreement for physical collocation, whether it is a new agreement, an amendment to an existing agreement, or a renegotiated agreement between BellSouth and a CLEC, must be filed with the state public service commission for its review and approval. While it is BellSouth's responsibility to offer specific collocation requirements as mandated by the FCC and the appropriate state public service commission for physical collocation, it is the responsibility of every CLEC, including AT&T, to negotiate the collocation contract rates, terms and conditions into its Interconnection Agreement with BellSouth. If a CLEC does not agree with the language contained in BellSouth's Standard Interconnection Agreement, then it is up to the CLEC to propose its language and negotiate what language should be included in its Interconnection Agreement. If BellSouth and the CLEC cannot agree on mutually acceptable contract language, then the CLEC has the option of bringing these disputed issues before the state public service commission for resolution, which is precisely what AT&T has done in many instances over the last three years. In light of existing safeguards, there simply is no basis to argue that the possibility of discriminatory collocation practices constitutes impairment.

4. Fiber Collocators May Interconnect with Collocated CLECs.{ TC "4.

Fiber Collocators May Interconnect with Collocated CLECs." \f C \l "3" }

AT&T is also incorrect when it states that BellSouth does not allow fiber-based collocators to interconnect with collocated CLECs. This statement is untrue. BellSouth will allow collocators to connect to each other, whether they are collocated in the same office or in two different offices. If the collocators are physically or virtually located in the same central office, the collocators' BellSouth Certified Supplier ("BCS") may install a co-carrier cross-connect between the collocation arrangements of the two collocators. If the collocators are located in different central offices, then the collocators may order inter-office facilities and cross-connect their facilities to each other.

The only requirement that BellSouth places on the collocators is that each collocator must have the appropriate rates, terms and conditions for co-carrier cross-connects included in their respective interconnection agreement with BellSouth. BellSouth's terms and conditions for co-carrier cross connects are consistent with the Commission's *Fourth Report and Order*.⁷⁴ There is no restriction by BellSouth that would preclude two carriers from interconnecting to each other within a central office or between two different central offices, except for the FCC's requirement that the primary purpose of collocation is for the collocator to interconnect its network with BellSouth's network and/or to access UNEs. If the collocator's primary purpose for collocating within a BellSouth central office is not for the stated purpose under the Act, then the collocator has not complied with the FCC's collocation requirement and is in violation of its agreement with BellSouth.

5. BellSouth's Remote Site Collocation Practices Are Reasonable.{ TC

"5. BellSouth's Remote Site Collocation Practices are Reasonable." \f C \l "3" }

⁷⁴ *In the Matter of Deployment of Wireline Services Offering Advanced Telecommunications Capability*, CC Docket No. 98-147, *Fourth Report and Order*, FCC 01-204 (rel. Aug. 8, 2001).

Another empty claim is AT&T's statement that it cannot serve customers in remote central offices where there is insufficient demand to justify collocation. AT&T offers no support for this contention. Nevertheless, BellSouth offers AT&T the same process at parity with the process that BellSouth employs for itself and other CLECs. At the present time, access to loops served by fiber-fed remote terminals beyond the limits of central office-based Asymmetrical Digital Subscriber Loop ("ADSL") service is accomplished by placing a remote-based ADSL solution at the remote terminal. Because BellSouth provides ADSL services to many of its customers through the use of remote terminals, BellSouth is obligated to make these remote terminal sites available for collocation, so that the CLECs may also provide services to those customers being served out of a remote terminal. This is in compliance with the Commission's rules regarding remote terminal collocation. Therefore, AT&T is being treated in a nondiscriminatory manner in regard to collocation at BellSouth's remote terminal sites.

It should be noted that if BellSouth wishes to provide ADSL service to a customer served by a remote terminal, it would have to place its DSLAM equipment in that remote terminal. By utilizing the physical collocation process, any CLEC (including AT&T) also has the right to collocate its DSLAM equipment at that remote terminal site. This allows CLECs to provision their own high-speed data access in the same nondiscriminatory manner as BellSouth or any other CLEC that has collocated its DSLAM equipment at the same remote terminal site. Of course, AT&T, like any other CLEC, must review its own business plans and determine whether it is profitable to offer high-speed services to those customers that are being served in BellSouth's network via a remote terminal. Obviously, there are some CLECs that have and will choose to collocate DSLAM equipment at certain BellSouth remote terminals to offer high-speed services to those customers who are being served from that remote terminal site.

BellSouth has made physical collocation available to all CLECs, including AT&T, at its remote terminal sites on a just, reasonable, and nondiscriminatory basis.

6. Collocation Charges Are Not Excessive.{ TC "6. Collocation Charges Are Not Excessive." \f C \l "3" }

Since AT&T did not provide specific examples to support their claim that non-recurring collocation charges can be as high as \$500,000 per office, it is difficult to respond to their claim. As noted above, BellSouth has changed from a non-recurring/recurring rate structure to a recurring rate structure for the majority of the space preparation rates, including power construction. Therefore, no CLEC would be assessed the level of non-recurring charges that is alleged by AT&T, when the CLEC has adopted BellSouth's standard rate pricing structure. Even under ICB pricing, AT&T's representation is over-inflated.

With regard to AT&T's allegation of time delays, BellSouth is required to respond to CLEC requests for collocation within state-specific or FCC-mandated response and provisioning intervals or face the possibility of paying fines to the CLECs and the state public service commissions. Furthermore, most of the state public service commissions in the BellSouth region have established response and provisioning intervals that are shorter than the default intervals prescribed by the FCC. BellSouth fully complies with the state public service commission and FCC response and provisioning intervals as required, and has a vested interest in ensuring that it complies with the intervals agreed to with the CLEC.⁷⁵

7. BellSouth's Has the Capacity to Meet Increased Demand for Conversions of UNE-P to Stand-Alone UNEs{ TC "7. BellSouth's Has the Capacity to Meet Increased Demand for Conversions of UNE-P to Stand-Alone UNEs" \f C \l "3" }.

⁷⁵ In some rare cases, as with any construction project, unanticipated events may result in a need to extend the original interval. Any legitimate delays were communicated with the CLECs and due dates were adjusted with mutual agreement on the new date.

AT&T claims that ILECs cannot provision unbundled loops quickly enough or at a level of quality such that a CLEC can compete effectively through self-provided switching. AT&T is particularly critical of the hot cut process, contending that a coordinated hot cut process is unworkable because of service outages and that the ILECs cannot perform hot cuts in sufficient quantities to sustain a competitive market.⁷⁶ As the Affidavit of Kenneth L. Ainsworth and W. Keith Milner shows, BellSouth has established, documented and tested processes that permit it to provision unbundled hot cut loops in an effective, reliable and timely manner.⁷⁷ Past performance shows that BellSouth provisioned CLEC hot cut orders on a timely basis, with minimum disruption to end users. Moreover, BellSouth has the capacity to meet any reasonable foreseeable increase in demand for stand-alone loops that might result from increased CLEC reliance on self-provided switching.

AT&T's assertion that ILECs could not handle mass conversions from UNE-P arrangements to stand-alone loops is pure hyperbole. The type of rearrangements that such conversions engender is not unique. For years, BellSouth has accomplished loop cutovers associated with its own switch replacements that affect thousands of customers in a manner that has been virtually transparent to the public. Based on this experience as well as BellSouth's experience in performing hot cuts for CLEC loops, it is absurd to suggest that BellSouth is ill-prepared to handle additional requests that may arise from CLEC self-provisioning of switching. BellSouth's systems and processes are scalable and the capacity of those systems and processes may be readily increased as demand warrants.

⁷⁶ See, e.g., AT&T Comments, Declaration of Ellyce Brenner, ¶¶ 40, 57 ("Brenner Decl.").

⁷⁷ Attachment 6 is an Affidavit of Kenneth L. Ainsworth and W. Keith Milner on Behalf of BellSouth rebutting the claims of commenters that ILECs should continue to be required to offer unbundled local switching as a UNE because ILECs cannot provide unbundled loops at the quality and quantity needed by CLECs to compete effectively through self-provided switching. (hereinafter "Ainsworth and Milner Affidavit").

Hot cuts effectuate the conversion of an existing BellSouth customer to a CLEC's network by transferring the customer's in-service loop over to the CLEC's network. As shown in the Ainsworth and Milner Affidavit, BellSouth has established hot cut procedures that ensure accurate, reliable, and timely cutovers.⁷⁸ Contrary to AT&T's allegations that the hot cut process is inherently unreliable, the facts show that BellSouth's hot cut performance is excellent. Ainsworth and Milner estimate that in the twelve-month period ending March 31, 2002, BellSouth had used its hot cut process to provision 131,494 loops. Of those hot cuts, 99.6 percent were provisioned within the 15-minute performance benchmark approved by the state commissions.⁷⁹

Furthermore, BellSouth has more than adequate resources available to meet any reasonable increase in load volumes that may be associated with UNE loop conversions. BellSouth has three dedicated Local Carrier Service Centers ("LCSCs") serving the CLEC community for ordering and preordering. In addition, there are three dedicated Customer Wholesale Interconnection Services ("CWINS") operational centers to perform hot cut coordination when required. Between January 2000 and April 2001, BellSouth increased the number of trained technicians and service representatives in the CWINS and LCSCs from about 938 to 1860.⁸⁰

Staffing for the LCSCs and CWINS centers are based on sophisticated force models to ensure that these operations are adequately staffed to meet anticipated CLEC demand.⁸¹ Equally important is that workers in these centers can be moved from one function to another function or

⁷⁸ Ainsworth and Milner Affidavit, ¶¶ 5-18.

⁷⁹ *Id.*, ¶ 19-21.

⁸⁰ *Id.*, ¶ 23-23.

⁸¹ *Id.*, ¶ 26-30.

have their job assignments changed to refocus resources to meet changes in demand.⁸² Thus, there can be no doubt that BellSouth has processes in place designed to ensure that increases in the volume of hot cuts can be accommodated without sacrificing the quality and reliability of the services performed by the LCSC and CWINS organizations.⁸³

In addition to adequately staffing its LCSC and CWINS organizations, BellSouth maintains a flexible work force among central office technicians whose assignments at specific offices are adjusted as necessary to support changes or spikes in workload volumes. BellSouth's approach to staffing can and does accommodate the central office work that is associated with the provision of a hot cut—the placement and removal of cross connects.

Loop conversion work is just part of the overall work done on daily basis in a central office. Depending on the work load and lay out of the central office, anywhere from two to ten (or more) central office technicians may be at work simultaneously on the same Main Distributing Frame (“MDF”) without a negative impact on productivity. Cable pairs are deployed on the MDF as cables are brought into the central office. When multiple loop conversions are scheduled in a single day for a single central office, the pre-wiring work may be done over several shifts in the days leading up to the due date. Because the access lines for these conversions are generally spread throughout the central office, the actual cutovers can be accomplished without technicians interfering in each other's workspace.⁸⁴

⁸² *Id.*, ¶ 25.

⁸³ *Id.*, ¶ 26.

⁸⁴ BellSouth's processes and procedures for scaling its resources to handle both steadily increasing volumes and spikes in those volumes, are designed to ensure that those standards will continue to be met as levels of competition increases—even without the continued availability of unbundled switching.

AT&T attempts to disparage the ILECs' ability to perform line-by-line hot cuts, suggesting that only bulk cutovers on a project-managed basis will eliminate the persistent problems.⁸⁵ Here again, AT&T just does not have it right, at least with regard to BellSouth. Hot cuts done on a project-managed basis are simply conversions with large numbers of loops. The same basic provisioning processes are used for both individual hot cuts and projects. Contrary to AT&T's belief,⁸⁶ BellSouth technicians are dedicated to an individual hot cut, BellSouth communicates with CLECs on individual hot cuts and BellSouth negotiates individual hot cuts outside of regular business hours in precisely the same way it does for hot cuts that are project managed.⁸⁷ Simply, BellSouth's hot cut performance belies AT&T's laments.

AT&T, through the Declaration of Irwin Gerzberg, argues that the hot cut process could be avoided if ILECs adopted its electronic loop provisioning ("ELP") proposal. As the Ainsworth and Milner Affidavit demonstrates, ELP is extraordinarily costly and cannot be economically justified.⁸⁸ There are a number of infirmities with the ELP proposal. First and foremost, it is predicated on a large scale expansion of Asynchronous Transfer Mode ("ATM") technology. While many ADSL systems probably employ ATM technology, it is not used in all cases. Indeed, early ADSL implementations employed Ethernet-like framing rather than ATM. AT&T just chooses to ignore non-ATM deployments of ADSL as well as DSL technologies that do not co-exist with a voice line on the same cable pair, *e.g.*, SDSL and SHDSL. Likewise, AT&T does not consider the data transport that does not depend on DSL technology. Instead, AT&T's proposal concocts a network in which voice traffic is packetized over "next generation"

⁸⁵ See AT&T Comments, Brenner Decl., ¶¶ 44-45.

⁸⁶ *Id.*, ¶ 46.

⁸⁷ See Ainsworth and Milner Affidavit, ¶ 45.

⁸⁸ *Id.*, ¶¶ 61-79.

digital loop carrier systems. AT&T never considers the cost associated with deploying a non-existent network. AT&T just presumes that eliminating hot cuts would offset the costs of the ELP proposal. As Ainworth and Milner explain, the amount of investment necessary to implement an ELP proposal would be extraordinarily large because virtually none of BellSouth's existing investment would be useful.⁸⁹ Moreover, before any investment could be made, there would have to be a single, DSL standard and technology mandated in order to insure interoperability between different carrier networks. In other words, the Commission will determine the economic winners and losers for equipment manufacturers—not the marketplace. Not only would such a result represent a radical change in Commission policy, but, in addition, it would stifle innovation in broadband technologies at the very moment the Commission is trying to spur broadband development.

None of AT&T's comments can be taken to seriously challenge BellSouth's ability to perform hot cuts. BellSouth has shown that a CLEC's ability to compete in the absence of mandated unbundled switching is not impaired. BellSouth can and will meet the CLECs' demand for loop conversions.

E. CLECs Are Not Impaired Without Access to Inter-Office Transport. { TC "E. CLECs Are Not Impaired Without Access to Inter-Office Transport." \f C \l "3" }

The data in BellSouth's region show that CLECs have alternative sources of interoffice transport, as a general matter, but most certainly in the lucrative markets in which they concentrate their business activities. Fiber-based collocators have access to 53% of all access lines in the BellSouth region and 69% of all business lines in the top 25 MSAs in the BellSouth region. Thirty-five percent of business lines in the top 25 MSAs in the region are accessible by

⁸⁹ *Id.*, ¶¶63, 70-71.

four or more fiber-based collocators and more than half are accessible by at least two fiber-based collocators.⁹⁰ Further, in the MSAs in the BellSouth region ranked from 101-150 nationally, the number of CLEC networks has grown 130% since 1998, pointing to the wide-spread availability of alternative transport – including self-provisioned transport – even in smaller markets.⁹¹ CLEC claims that the costs involved in self-provisioning networks are effective barriers to entry are unsubstantiated by either the economic theory, as explained in NERA's Reply Declaration,⁹² or the reality of the growth of self-provisioned networks. There is no shortage of available sources of interoffice transport and many companies, even traditionally non-telecommunications utilities, are finding it advantageous to enter the transport market.⁹³ The facts simply do not support continuing to tamper with the market, thereby hindering the growth of market-based sources of transport, by requiring ILECs to supply TELRIC-based interoffice transport.

1. Wide-Spread Collocation Is an Important Indication of the Availability of Alternative Transport.{ TC "1. Wide-Spread Collocation Is an Important Indication of the Availability of Alternative Transport." \f C \l "3" }

Several CLECs suggested that the mere presence of a fiber-based collocator does not mean that the collocator is offering alternative transport facilities to CLECs. However, it does indicate that these collocators are situated to begin, if they are not already, providing alternatives to ILEC facilities. Some commenters argue that alternative providers are not required to offer services to CLECs. Demand will drive the market. These commenters, however, overlook the fact that the presence of a guaranteed TELRIC-based rate for an ILEC offering may deter – or at

⁹⁰. NERA Reply Decl. at 103, Table 16.

⁹¹ NERA Reply Decl. at 105, Table 17.

⁹² NERA Reply Decl. Section III.C.3.

⁹³ *UNE Fact Report*, Section III, Tables 5-7.

a least not incent – a collocator from extending a wholesale offering to competing carriers. Nevertheless, the data shows that the capability exists to obtain interoffice transport from a provider other than an ILEC.

If competitive suppliers did not have to compete with an ILEC's regulatory imposed TELRIC-based offering, they would not need to be prodded to provide wholesale service. The market would provide the incentive for the appropriate level of competition. Allowing the collocator and the ILEC to compete fairly in the wholesale market would ultimately result in a more efficient use of the networks, provide the collocators an income stream on underutilized facilities, and develop a healthy wholesale market. It is important to note that many carriers are competing in this market already.

2. The Commission Should Not Eliminate Use Restrictions on EELs{ TC
"2. The Commission Should Not Eliminate Use Restrictions on EELs" \f C \l "3"
}.}

The argument that CLECs need unrestricted use of EELs because their switches cover a larger geographic area than the ILEC switches is without merit. Each carrier makes decisions on how to design its network based on a number of factors and should be aware of the economic implications of the choices it makes. If a carrier decides to place fewer switches in an area than another carrier, then there obviously will be more miles from an end user's premises to the carrier's switch, and the carrier must figure those costs into its decision-making. The balance between the cost of switches and the cost of transport is an economic trade-off each carrier makes.

AT&T goes further to claim that ILECs “do not incur the transport piece of these transmission costs, because their customers’ loops all terminate at their switches” (p. 138). This argument is irrational. In this instance, AT&T would be collocated in a different BellSouth central office (presumably at a tandem) than the wire center serving the end user placing the call. Unless BellSouth had made an economic decision to place direct trunking between the serving wire center placing the call and the one to which the call is being placed, BellSouth would still incur the cost of transmitting traffic along the exact same route. Whatever the trunking arrangement or the location of AT&T’s collocation, BellSouth will always incur the cost of transporting the call between the same two end points as a CLEC regardless of the relatively shorter distance to the first switch. The only instance in which BellSouth would not incur “transmission costs” would be if the two end users were served from the same serving wire center.

AT&T, like many CLECs, has made a decision to place fewer switches and must determine how to get the traffic from end users to its switches. AT&T has argued that use and co-mingling restrictions on EELs prevent them from using UNEs to fill in network gaps and from carrying traffic to an aggregation point at an efficient cost since they cannot carry all the traffic from a central office on one facility.⁹⁴ This simply isn’t true. First, CLECs are not prevented from using UNEs and EELs to fill in network gaps and aggregating traffic at a collocation arrangement. Second, under the existing restrictions, CLECs have three options for carrying traffic back to an aggregation point if a CLEC elects not to place its own facilities or purchase them from a third party: 1) collocate in the central offices it serves and use UNEs; 2) use special access for all of its traffic; or 3) use some special access and some EELs. CLECs

⁹⁴ AT&T Comments at 136-39.

must weigh the costs and benefits of each option and make an economically rational choice between them. Obviously, the cheapest way for any carrier would be to use EELs to carry all the traffic. However, shielding CLECs from market-based rates does not make them efficient competitors and there are CLECs who do efficiently serve customers using one or a combination of the options available to them.⁹⁵

Several carriers have argued that there is no reason to prohibit co-mingling of UNE services with special access services.⁹⁶ Special access services are a premium service. Carriers pay a premium for these circuits and, in turn, receive a higher level of service than that available with other transport. Removing the co-mingling restriction would mean that a CLEC could order a channelized special access DS3 and fill its channels with UNE DS1s. It is impossible to segregate UNEs and special access circuits that are riding the facility and, therefore, all circuits would receive the special access level of service. So, while the CLEC would receive the same level of service on that facility as another carrier who uses only special access services on a facility, the CLEC would pay only a portion of the cost. BellSouth could lower the level of service it provides on all special access services, but that would prevent BellSouth from competing for the business of customers who demand a higher level of service.

3. CLECs Are Not Impaired Without Unbundled Access to SONET Rings
{ TC "3. CLECs Are Not Impaired Without Unbundled Access to SONET Rings" \f C \l "3" }.

A number of CLECs asked the Commission to clarify that CLECs have the right to unbundled access to existing SONET rings. CLECs currently have the right to any existing transport. However, SONET rings are constructed to specifications of a customer, or serve as the

⁹⁵ NERA Reply Decl. at 26, 41-44; Shelanski Reply Decl., ¶¶ 10-11.

⁹⁶ See, e.g., WorldCom Comments at 81.

backbone of the shared transport network, linking central offices. The Commission has not “require[ed] incumbent LECs to construct new transport facilities to meet specific competitive LEC point-to-point demand requirements for facilities that the incumbent LEC has not deployed for its own use.”⁹⁷ While CLECs would have the Commission believe that the ILECs simply assign or piece together SONET rings with existing facilities, this is not the case in fact. While an ILEC may use some existing facilities, a SONET ring is not a ring until it is built to the customer’s exact specifications. For example, the customer must work with the ILEC’s systems designers to determine the locations of each and every node on a ring, the location of switches and the necessity for equipment such as multiplexers. None of these electronics are deployed until after a ring is specifically ordered and designed. BellSouth does not offer an “off the shelf” SONET ring product. Each ring is built pursuant to the customer’s definitive request. Further, each ring is a dedicated ring designed to meet the customer’s specific capacity requirements and is used for that individual customer. Therefore, it is a “custom” service offering. As such, it is not required to be unbundled.⁹⁸

F. CLECs Are Not Impaired Without Access to Signaling and AIN.{ TC "F. CLECs Are Not Impaired Without Access to Signaling and AIN." \f C \l "2" }

The Commission should refrain from unbundling the SS7 Signaling network and the AIN any further. Further, the Commission should deny WorldCom’s request that BellSouth and other ILECs be required to provide downloads of the CNAM database.

1. Effective Competition Exists.{ TC "1. Effective Competition Exists." \f C \l "3" }

⁹⁷ *UNE Remand Order*, 15 FCC Rcd at 3843, ¶ 324.

⁹⁸ *Id.* Covad’s assertion (p. 74) that there are “no distinctive characteristics of SONET technology that would justify an unbundling exemption” is simply incorrect.

Illuminet in its Comments confirms BellSouth's position that a host of diverse and reliable signaling network providers effectively provide signaling and database services on a national basis to carriers today. Illuminet's Comments demonstrate that the real market constraint for signaling is created by the fact that BOCs are forced to provide signaling transport at artificially low UNE TELRIC prices. Hence, unbundling and TELRIC pricing creates a result that is directly contrary to the Commission's goal of establishing a regulatory framework that provides incentives for investment and innovation in facilities-based alternative networks.⁹⁹

2. There Are Alternate Sources of Reliable Signaling Networks.{ TC "2. There Are Alternate Sources of Reliable Signaling Networks." \f C \l "3" }

Illuminet further points out that many other large and reliable service providers compete with Illuminet in this market.¹⁰⁰ AT&T, Sprint, GTE and WorldCom provide robust and reliable competitive signaling service to other carriers. As the D.C. Circuit Court of Appeals has recognized, impairment within the meaning of the Act is an easy case to make when there are no competing facilities in a market, but where, as here, such facilities exist, the case for impairment fades away.¹⁰¹

3. Unbundling Is Simply Signaling Transport Service at TELRIC.{ TC "3. Unbundling Is Simply Signaling Transport Service at TELRIC." \f C \l "3" }

BellSouth provides SS7 signaling transport to CLECs in exactly the same physical manner as it provides interconnection and signaling transport to any other qualifying requesting carrier today. When an IXC interconnects with BellSouth for switched access service, it uses the same links to connect to the same signaling transfer points as the CLEC does. The same arrangement applies to CMRS providers and independent telephone companies. For each of the

⁹⁹ See, e.g., NERA Reply Decl. at 32-33.

¹⁰⁰ Illuminet Comments at 4 n.3.

¹⁰¹ Reply Decl., ¶ 3.

arrangements, the price structure is exactly the same. Yet, when BellSouth provides this signaling transport service to CLECs it must do so as a UNE, at TELRIC prices; in all other circumstances, BellSouth provides its competitive signaling offering pursuant to its tariffs.

4. CLECs Purchasing Switching Are Different from CLECs That Have Their Own Switches{ TC "4.CLECs Purchasing Switching Are Different from CLECs That Have" \f C \l "3" }.

In section III.D above, BellSouth demonstrates that CLECs are no longer impaired without access to unbundled circuit switching so it follows that unbundled signaling in those circumstances is likewise unnecessary. WorldCom accurately described the way the network operates when a CLEC purchases local switching from BellSouth. Use of the BellSouth signaling network for call set-up is necessary until signaling reaches another properly interconnected carrier. However, this arrangement is no different than current IXC switched access, CMRS, and ICO interconnection arrangements. The price for this service is established by tariff for some and arranged through contract negotiation for others. In light of the availability of a range of facilities-based competitive alternatives, the Commission should remove signaling from the list of UNEs and allow market participants to negotiate the appropriate pricing.¹⁰² Allowing the market to determine price will foster competition.

5. Network Security Is a Prime National Concern.{ TC "5. Network Security Is a Prime National Concern." \f C \l "3" }

BellSouth and Illuminet have shown that the Commission should not require further unbundling of signaling or AIN networks. It is also imperative that interface points be in place to provide some protection from accidental or intentional harm to the public switched network.

¹⁰² See, e.g., NERA Reply Decl. at 32-33 on dangers of over-inclusive TELRIC pricing on non-bottleneck facilities.

Mediation may be necessary where networks of different carriers interconnect. The Commission should allow ILECs and other carriers to implement mediation as appropriate.

6. Calling Name Data Is Provided Effectively on a Per Query Basis.{ TC "6. Calling Name Data Is Provided Effectively on a Per Query Basis." \f C \l "3" }

In its comments, WorldCom attempts to portray the Calling Name database as a network element that approaches the importance of elements such as voice-grade loops. In doing so, WorldCom mischaracterizes the call flow, the information exchange and the role that Calling Name database plays in call set-up. A call is already set-up when the CNAM database is accessed and access to or lack of access to a Calling Name Database does not affect the completion of the call. In WorldCom's case, WorldCom would have the calling number as part of the initial message that allows WorldCom to bill for the call. Once connection is made to the terminating end office, that switch determines that the called party subscribes to CNAM. It then queries the database for the name associated with the calling party number that WorldCom initially provided to the end office. That name is then delivered to the end user between the first and second rings. Billing is also based on the telephone number of the originating party, which WorldCom has from the beginning of their call set-up. Since CNAM comprises nothing more than giving the end-user additional information about who is calling and has nothing to do with call set-up, billing, etc.; providing the same information on a per query basis is absolutely sufficient for WorldCom's purposes. Downloads are completely unnecessary and inappropriate.

7. There Are Competitive Alternatives to the ILEC CNAM Database.{ TC "7. There Are Competitive Alternatives to the ILEC CNAM Database." \f C \l "3" }

Illuminet conclusively demonstrates that direct access to the ILEC CNAM database is not necessary for a carrier to compete with an ILEC. In fact, the Commission's requirement that this competitive service be provided as a UNE has the perverse effect of inhibiting the very kind

of robust competition in the signaling and database services market that the Commission seeks to promote.

There are 17 database providers and none of them have contractual arrangements with all 17. Thus, WorldCom is not at a disadvantage without UNE requirements. BST currently has a contractual relationship with 6 other database providers for sharing of CNAM data. All of BellSouth's contracts are predicated on CNAM sharing on a per query basis.

8. CNAM Databases Contain Customer Private Information.{ TC "8. CNAM Databases Contain Customer Private Information." \f C \l "3" }

The CNAM database contains customer proprietary information that BellSouth's own service representatives could not see without first obtaining the customer's permission. Included in BellSouth's database is a record for each customer whose name is stored in the database, both BellSouth customers and other carriers' customers. The record for each number contains the number, the name, the privacy indicator, and the OCN of the company that serves the customer. Thus, the databases contain both non-published numbers and numbers belonging to other carriers. BellSouth is not free to disclose such information unilaterally. Moreover, this Commission and state commissions have been very concerned about the inappropriate use of customer specific proprietary information. Many of the ILEC databases contain such information and ILECs have relationships with their customers that compel them to protect such information from broader disclosure. When other service providers give BellSouth information to include in its databases, such information is generally subject to contractual conditions that limit the way in which BellSouth may use or disclose the data. Batch downloading of these databases will move safeguarding of that information beyond the control of the ILEC and make it impossible for BellSouth to meet its contractual obligations. WorldCom can neither demonstrate that, in light of the availability of competitive alternatives, they are impaired

without access to ILEC CNAM databases or that it is necessary for ILECs to provide downloads of those databases to WorldCom.¹⁰³

9. WorldCom Overstates the Complexity of Database Queries.{ TC "9. WorldCom Overstates the Complexity of Database Queries." \f C \l "3" }

WorldCom, in a transparent attempt to fabricate a legal requirement that ILECs download CNAM databases to them, has grossly overstated the complexity of querying the database. In fact the potential for querying databases other than those that a carrier owns is quite common. When a customer is calling an area served by a company other than his own (e.g., an SBC customer calling a BellSouth customer), BellSouth must get the name information from that originating customer's company. This is generally done using one of the signaling networks described by Illuminet. This querying of other databases using SS7 signaling happens millions of times a day and yet the name is still delivered between the first and second ring.

10. The Cost of Downloading the CNAM Database Is Unreasonable.{ TC "10. The Cost of Downloading the CNAM Database Is Unreasonable." \f C \l "3" }

The cost of managing downloads, maintaining synchronization between the master and the downloaded database, working trouble resolution, etc. will unquestionably outweigh the cost associated with the database "dips." Anytime such an element of complexity is added to a real-time network, the costs associated with sustaining service quality go up significantly. The incremental cost of providing downloads is increased because of the added complexities associated with the interactions between an ILEC and multiple CLECs.

IV. ADVANCED SERVICES SHOULD NOT BE SUBJECT TO UNBUNDLING REQUIREMENTS.{ TC "IV. ADVANCED SERVICES SHOULD NOT BE SUBJECT TO UNBUNDLING REQUIREMENTS." \f C \l "1" }

¹⁰³ Because WorldCom is pressing state commissions to require complete downloads and unrestricted use of CNAM data, the FCC must rule that downloads are not necessary and that the states are not authorized to require them.

The attached Reply Declaration of economist Robert G. Harris refutes arguments concerning the alleged market power of ILECs in broadband services and that intermodal competition in broadband services is ineffective.¹⁰⁴ Indeed, the United States Court of Appeals expressly vacated the Commission's line sharing order, finding that the Commission had ignored its own findings concerning both the robust competition and the dominance of cable in the broadband market.¹⁰⁵ Professor Harris's Declaration summarizes the most recent data on current and projected market share for DSL services, and points out that over 70% of all homes had cable modem service available to them at the end of 2001, and 92% of all homes are expected to have cable modem service available to them by the end of 2004.¹⁰⁶ As this Commission has noted, "[i]n the past year . . . cable's lead over DSL has grown."¹⁰⁷

Professor Harris makes two other critical observations. First, he refutes arguments that intermodal broadband competition is ineffective.¹⁰⁸ Using the example of the deregulation of surface freight transportation, and noting that in some geographic markets, railroads, for example, face substantial competition from inland barges, while for some commodities, railroads face significant competition from trucks, Professor Harris states:

¹⁰⁴ See Harris Reply Decl., *passim*. Dr. Harris's declaration also responds to certain issues raised by Dr. Cerf of WorldCom in his post-comment *ex parte* contact with Chairman Powell. See also the Comments and Reply Comments filed by BellSouth in the following proceedings: *In the Matter of Review of Regulatory Requirements for Incumbent LEC Broadband Telecommunications Services*, CC Docket No. 01-337; *In the Matter of Appropriate Framework for Broadband Access to the Internet Over Wireline Facilities*, CC Docket No. 02-33.

¹⁰⁵ *USTA v. FCC*, 290 F.3d at 428.

¹⁰⁶ Harris Reply Decl. at 7-8, ¶ 9.

¹⁰⁷ *In the Matter of Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities; Internet Over Cable Declaratory Ruling; Appropriate Regulatory Treatment of Broadband Access to the Internet Over Cable Facilities*, GN Docket No. 00-185; CS Docket No. 02-52, *Declaratory Ruling of Proposed Rulemaking*, FCC 02-77, ¶ 9 (rel. Mar. 15, 2002) ("*Cable Modern Declaratory Ruling*").

¹⁰⁸ Harris Reply Decl. at 11-13, ¶¶ 14-17.

The rationale for deregulating surface freight transportation—one of the greatest public policy successes ever—was not that railroads faced each and every mode of competition in each and every market, but that, on the whole, they faced competition from various modes. *Likewise, in broadband access, it is not necessary that cable, DSL, satellite and wireless compete directly in each and every market segment. Rather, the force of intermodal competition arises from the different economic attributes of the competing modes. One mode which may have competitive advantages in some market segments (e.g., satellite broadband access in rural areas), while another mode may have competitive advantage in some other market segments (e.g., mobile wireless for customers who highly value broadband access across locations).*¹⁰⁹

As Professor Harris demonstrates, the greatest benefits of intermodal competition come from dynamic changes, as each mode strives to gain competitive advantage or reduce competitive disadvantage relative to other modes, “the point is not what the relative attributes of each mode are today, under highly asymmetric regulation, but the potential of each mode with unrestrained incentives for the continuing development and adoption of technologies that improve the reliability, expand the coverage, increase the capabilities and/or reduce the costs of the respective modes.”¹¹⁰

The second, and critical point that Professor Harris makes is the market distorting effects that TELRIC pricing will have on broadband investment and innovation generally and on RBOC business plans specifically. Professor Harris explains that unbundling broadband is especially pernicious because while by its nature unbundling reduces incentives for investment, that disincentive effect is increased exponentially when rapid technological change can cause early

¹⁰⁹ *Id.* at 11-12, ¶ 15 (emphasis added).

¹¹⁰ *Id.* at 12, ¶ 16.

technological obsolescence.¹¹¹ A restrained regulatory approach is absolutely critical to encouraging the first generation of broadband deployment so as to create demand for the next generation.¹¹² And specifically, unbundling ILEC broadband access wrecks the RBOC business case for DSL.

Assuming “baseline” conditions and expectations, RBOCs’ investment in DSL network upgrades will not turn cash flow positive until 2004, with an accumulated \$7 billion in negative cash flow. It is only after six years of positive cash flow that the RBOCs will have recovered their DSL investment.¹¹³ However, both market and regulatory pressures subject RBOCs to enormous risk: a 25% lower than baseline case market penetration will yield \$1.2 billion less in cash flow, threatening financial viability of investment, *while the imposition of UNE-P pricing of DSL service would reduce cash flow by \$2.5 billion through 2011.*¹¹⁴

Thus, while the *Verizon* (TELRIC) decision clarifies that the Commission acted within the bounds of the Telecommunications Act of 1996 in establishing the TELRIC costing methodology, the decision says nothing about whether their implementation is good policy.¹¹⁵ As Professor Harris and NERA demonstrate, in the context of advanced (broadband) services, it most emphatically is not.¹¹⁶ More regulation of RBOCs' broadband serves only the private

¹¹¹ . *Id.* at 20, ¶ 30; *see also* NERA Reply Decl. generally at 32, and specifically at 108, ¶ 166 (“[E]ven as competitive developments compel [ILECs] to shorten the life cycles of existing revenue-earning services in order to introduce replacement services, ILECs have to balance the opportunity cost of failing to introduce those replacements against the need to recoup the significant investments that go into developing successive generations of services. A mandatory unbundling policy that applies to the newer replacement services and technologies would only upset this balance and discourage ILEC investment in them.”).

¹¹² Harris Reply Decl. at 24-26, ¶ 36-38.

¹¹³ *Id.* at 23, ¶ 34.

¹¹⁴ *Id.*, attach. 2, p. 6.

¹¹⁵ *Id.* at 5, ¶ 7.

¹¹⁶ Harris Reply Decl. at 5, ¶ 7, *passim*; NERA Reply Decl. at 106-09, *passim*.

interests of broadband competitors, not the public interest of promoting more and faster broadband access, enhanced facilities-based competition and increased investment in telecommunications infrastructure.¹¹⁷ TELRIC-based UNE-P pricing, when applied to advanced services, becomes an even stronger disincentive when ILECs are obliged to lease to their competitors parts of their next generation networks; conversely, intramodal competitors have very little incentive to develop their own matching advanced services and technologies when they are practically assured access to ILEC's advanced networks at bargain-basement prices.¹¹⁸ The case is cogently made by Next Level Communications, the (self-described) "leading provider of advanced technology that integrates high-speed data, voice and video for delivery over existing copper 'twisted pair' wires,"¹¹⁹ states that, "[r]equiring ILECs to provide unbundled network elements to their competitors at forward-looking rates has converted what is a highly compelling and competitive business case into one in which they are prevented from recouping justifiable returns on their investments."¹²⁰ In a recent press release Covad pointed to "an independent survey indicating remarkable demand for broadband." Referring to Internet connectivity, Covad quotes from the Fabrizio-McLaughlin research conducted for Covad, "cable is the most common method of connection, accounting for 18 percent of home Internet

¹¹⁷ Harris Reply Decl. at 4, ¶ 5; *See also* NERA Reply Decl. at 33, noting that the grant of unbundling relief when the conditions for impairment do not exist can in fact prove beneficial for overall social welfare.

¹¹⁸ NERA Reply Decl. at 109. Particularly problematic, as Professor Harris notes, is the campaign that AT&T and others have launched in the individual states to reduce the level of TELRIC-based UNE-P prices, already below actual economic costs, even further, which can inflict real and lasting damage on RBOC broadband deployment. Harris Reply Decl. 19, ¶¶ 27-28. For this reason, the Commission must make clear that unbundling does not apply to ILEC advanced services and that individual states may not create new broadband, or advanced services, UNEs.

¹¹⁹ Comments of Next Level Communications at 1.

¹²⁰ *Id.* at 2.

connections. The next most common method of high-speed access is DSL, which accounts for 11 percent.”¹²¹

NERA economists summarize the appropriate context for the application of unbundling regulation succinctly. First, the 1996 Act’s provisions—and the Commission’s implementing policies—clearly intended to make elements of the ILECs’ existing *legacy* networks available to competitors.¹²² It is quite another matter to extend those policies to next-generation network facilities for which claims of natural monopoly characteristics have not been proven; where ILEC’s do not possess either a first-mover advantage or any specialized knowledge or technological prowess when it comes to advanced services and new technologies; or where ILEC-provided advanced services are likely to cannibalize the traditional services they offer (such as the braking effect the sale of ILEC DSL service has had on ILEC second lines).¹²³

The evidence for robust intermodal competition continues. Recently, DirecTV announced an agreement with WorldCom intended to allow DirecTV to offer high-speed Internet access more broadly. Using DSL technology, DirecTV will use WorldCom’s network to offer

¹²¹ Covad Communications Group, Inc. press release, June 19, 2002, available at http://www.covad.com/companyinfo/pressreleases/pr_2002/061902b_press.shtml.

¹²² NERA Reply Decl. at 107. (emphasis in original) The Commission should reject Allegiance’s claim that a lack of unbundling requirements in next generation networks and a corresponding increase in ILEC broadband investment would result in inefficient investment because such investments would be made “in response to changes in regulation,” Comments of Allegiance Telecom, Inc. at 4, as tautological nonsense. With unbundling regulation, investment in next generation networks will be discouraged. Without regulation, carriers will be free to invest without untoward regulatory risk, and the market will ultimately determine whether those investments are efficient. If Allegiance is really talking about an ILECs unreasonable “classification” of its legacy network as “broadband” in order to avoid unbundling obligations, as opposed to an ILEC’s actual investment in new broadband facilities as a result of a lack of unbundling regulation, *cf.* Allegiance Comments p. 4 with p. 18, then to the extent an ILEC takes an unreasonable position concerning the classification of its legacy network, a CLEC has adequate enforcement remedies under existing law.

¹²³ NERA Reply Decl. at 107-08.

DSL to about 50 million homes.¹²⁴ Competitive providers have access to cable modem service, satellite, and wireless broadband solutions and do not require access to ILEC's loops to provide broadband to their customers. These technologies offer alternatives to the consumer and business markets. Cable modem service is available in practically all consumer markets and many business markets.¹²⁵ Indeed, cable modem service is the dominant provider by a two to one margin. CLECs also have alternatives to offer business customers. CLECs can purchase high-speed data services from facilities-based providers. Often office buildings are linked by optical rings that can provide data services much more robust than DSL services.

Shortly after comments were filed in this proceeding, on April 18, 2002 the Commission adopted a *Report and Order* for licensing new satellite services in shared Ku-band frequencies (10.7 GHz – 14.5 GHz).¹²⁶ On April 25, SES Americom, a division of Luxembourg's SES Global Company, announced that it filed a petition with the Commission to offer consumers in the United States a new direct-to-home (DTH) satellite service, Americom2Home, offering video programming and high-speed Internet access.¹²⁷ By 2004 the Yankee Group estimates that satellite service providers will have a base of 24.6 million subscribers to which they can offer their broadband data services.¹²⁸

¹²⁴ Seth Schiesel, Yahoo! News-Technology Briefing/ Telecommunications: Direct TV In WorldCom D.S.L. Deal, March 22, 2002, at <http://premium.news.yahoo.com/news?tmpl=story&u=nytp/20020322/191728&bail=htt>.

¹²⁵ See Harris Reply Decl. at 7-9, ¶¶ 9-10.

¹²⁶ *In the Matter of the Establishment of Policies and Service Rules for the Non-Geostationary Satellite Orbit, Fixed Satellite Service in the Ku-band*, IB Docket No. 01-96, *Report and Order, Further Notice of Proposed Rulemaking*, FCC 02-123 (rel. Apr. 26, 2002).

¹²⁷ Mike Goodman, The Yankee Group, *SES American Announces a Competitive Satellite Service—But Will It Fly?* May 8, 2002, available at http://www.lightreading.com/section.asp?section_id=70.

¹²⁸ *Id.*

According to a recent article in Network World Fusion, Verizon Wireless recently launched its new Express Network, a high-speed wireless data service capable of supporting transfer rates of up to 144K bit/sec.¹²⁹ This is about three times as fast as dial-up service. The article says the service is available in 20% of Verizon's markets today and in most areas by year-end 2002. Intermodal competitors must be allowed to develop networks to freely service markets and compete for customers. Investing in new technology is risky. Technology becomes obsolete or customers choose different providers. Carriers do not need the additional risk that the government will take some of its network and allow another provider to use it without adequate compensation and without shouldering any of the associated risks. NERA and Professor Harris confirm these points.¹³⁰

The Commission should eliminate its current, limited unbundled packet switching requirement. The facts on the ground have proven the following observation by the Commission in 1999 to be even truer today.

[W]e are mindful that regulatory action should not alter the successful deployment of advanced services that has occurred to date. Our decision to decline to unbundle packet switching therefore reflects our concern that we not stifle burgeoning competition in the advanced service market. We are mindful that, in such a dynamic and evolving market, regulatory restraint on our part may be the most prudent course of action in order to further the Act's goal of encouraging facilities-based investment and innovation.¹³¹

¹²⁹ Michael Martin, *Verizon Wireless gets closer to 3G*, Network World, Feb. 4, 2002, available at http://www.nwfusion.com/news/2002/129718_02-04-2002.html.

¹³⁰ *Supra* n.111 and accompanying text.

¹³¹ *In the Matter of Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98, *Third Report and Order and Fourth Further Notice of Proposed Rulemaking*, 15 FCC Rcd 3696, 3840, ¶ 316 (1999) (“*UNE Remand Order*”).

Competition has only increased since the Commission reached this conclusion in the *UNE Remand Order*. Although BellSouth feels that regulatory forbearance would be more beneficial to overall broadband deployment, there can be no question that BellSouth has taken the necessary measures to ensure that CLECs have access to required facilities and therefore BellSouth is not required to unbundle packet switching.

A. BellSouth Has Complied in Good Faith with the Line Sharing Order.{ TC "A. BellSouth Has Complied in Good Faith With the Line Sharing Order." \f C \l "2" }

As shown above, broadband competition is flourishing. Line sharing of ILEC loops is simply not necessary for non-ILEC providers to offer broadband services to their customers. Accordingly, line sharing should no longer be required by the Commission.¹³² Several parties were critical of the way BellSouth has implemented its obligations under the Commission's *Line Sharing Order*.¹³³ These criticisms are without merit. First, BellSouth developed its line sharing offering through a collaborative process with all interested CLECs. In the line sharing collaborative, BellSouth and the CLECs jointly agreed to a schedule for development of methods and procedures for the various requirements of the *Line Sharing Order*. BellSouth developed various line sharing options in accordance with the wishes of the line sharing industry collaborative.

¹³² Likewise, the Commission should find that collocation at a remote terminal for the purposes of sharing a sub-loop is also unnecessary.

¹³³ *In the Matters of Deployment of Wireline Services Offering Advanced Telecommunications Capability and Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket Nos. 98-147 and 96-98, *Third Report and Order in CC Docket No. 98-147 and Fourth Report and Order in CC Docket No. 96-98*, 14 FCC Rcd 20912 (1999) ("*Line Sharing Order*"). The *Line Sharing Order* was vacated by the Court of Appeals for the District of Columbia Circuit, *USTA V. FCC*, 290 F.3d 415. On July 8, 2002, the Commission sought rehearing of the Court's decision.

Additionally, BellSouth developed a line sharing option in a digital loop carrier (DLC) environment. This option allows CLECs to collocate a DSLAM at a remote terminal (RT) and access a copper sub-loop to the end-user.

The stated goal of the Remote Terminal (“RT”) Collaborative “is to support the development of, with the mutual agreement to, the processes and procedures required to jointly implement line sharing utilizing splitters located in the remote terminal as one of the options to meet the requirements of the FCC line sharing order.”¹³⁴ BellSouth has developed the RT line sharing option and performed internal testing. UNE sub-loop feeder products enable the CLEC to carry data to the central office and on to the CLEC’s packet network. Two CLECs have submitted applications to collocate a DSLAM in a remote terminal. BellSouth has completed internal testing and is in the process of negotiating an agreement with a CLEC for carrier-to-carrier testing of the remote site line sharing option.

BellSouth continues to provide for line sharing from the remote terminal in its SGAT. After the Commission included these as requirements and after ILECs developed these options at significant expense, the CLECs now claim this is not what they want. Unbundled packet switching, however, as shown above is not warranted based on the empirical evidence and will discourage further investment by ILECs and CLECs.

WorldCom’s allegation that “operational issues” prevent it from offering DSL using line splitting is confusing at best. BellSouth began offering line splitting June 19, 2001. This service offered the same arrangement to CLECs as that described by the Commission in the *Texas 271 Order*¹³⁵ and the *Line Sharing Reconsideration Order*,¹³⁶ the conversion of a UNE-P to a line

¹³⁴ See Collaborative Charter, BST-RT-LS Line Sharing Collaborative, 7/19/2000.

¹³⁵ *In the Matter of Application by SBC Communications Inc., Southwestern Bell Telephone Company, And Southwestern Bell Communications Services, Inc. d/b/a Southwestern Bell Long*

splitting arrangement, where the CLEC provides the splitter.¹³⁷ BellSouth then developed an option whereby BellSouth would provide the splitter in line splitting arrangements.

Additionally, BellSouth worked with the Line Splitting Collaborative to prioritize the development of additional arrangements from which to migrate to line splitting arrangements.

These enhancements were available from November 1, 2001. The additional enhancements to the BellSouth Line Splitting Service are:

- Changing existing Switched Combo (UNE-P) to Line Splitting Service with BellSouth Owned Splitter;
- Changing BellSouth Retail Voice to Line Splitting Service;
- Changing BellSouth High Frequency Spectrum (CO Based) Line Splitting Service, Data Provider remaining; and
- Changing BellSouth High Frequency Spectrum (CO Based) Line Splitting Service, Data Provider changing.

BellSouth continues to work with the Collaborative to develop additional migration scenarios to line splitting arrangements. BellSouth announced additional migration scenarios to line splitting on May 23, 2002, which will be available to CLECs on July 19. WorldCom is a member of the Collaborative, and while its meeting attendance is sporadic, it nonetheless

Distance Pursuant to Section 271 of the Telecommunications Act of 1996 To Provide In-Region, InterLATA Services In Texas, CC Docket No. 00-65, *Memorandum Opinion and Order*, 15 FCC Rcd 18354 (2000).

¹³⁶ *In the Matter of Deployment of Wireline Services Offering Advanced Telecommunications Capability And Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket Nos. 98-147 and 96-98, *Third Report and Order on Reconsideration in CC Docket No. 98-147*; *Fourth Report and Order on Reconsideration in CC Docket No. 96-98*; *Third Further Notice of Proposed Rulemaking in CC Docket No. 98-147*; *Sixth Further Notice of Proposed Rulemaking in CC Docket No. 96-98*, 16 FCC Rcd 2101 (2001).

¹³⁷ The Commission should reject WorldCom's unfounded allegation that it cannot serve mass market customers using DSL over UNE-P. *See* WorldCom Comments at 87. Even though there are competitive switch providers available in the majority of BellSouth MSAs, UNE-P is currently available from all BellSouth serving wire centers. WorldCom or other CLECs are free to convert any customer to a UNE-P and to line splitting. WorldCom is attempting to mislead and confuse the FCC by stating that WorldCom believes that mass markets cannot be serviced with these services.

remains on the distribution list for all meeting notices and minutes. WorldCom has never reported an operational issue to the Collaborative that prohibits it from using line splitting to offer DSL to its customers.

CompTel has again asserted in this proceeding its desire for the unbundling of the low frequency spectrum. CompTel's request for this new UNE is merely a subterfuge for lower UNE loop prices. And while CompTel seeks to gain sympathy for its arguments by suggesting this new UNE would bring new entrants into the market, the reality is it would act as a further disincentive to facility based investment by CLECs.

Through a strained reading of the Commission's rules, CompTel asserts that the low frequency portion of the spectrum meets the Commission's definition of a subloop. It is significant that when this Commission required incumbents to make available unbundled access to the high frequency spectrum, the Commission viewed the high frequency spectrum as a new element, not as a subloop.¹³⁸ Subloop unbundling was never intended to address unbundling of spectrum, but rather deals with concerns regarding physical plant. Subloop unbundling enables CLECs with their own plant to connect to facilities of the incumbent. In fact, in determining that ILECs should provide unbundled access to subloops, the Commission sought to encourage investment by CLECs in physical plant:

We also conclude that access to subloop elements is likely to be the catalyst that will allow competitors, over time, to deploy their own complementary subloop facilities, and eventually to develop competitive loops. Lack of access to subloops discourages competitive LECs from attempting to combine their own feeder plant with the incumbent's distribution plant to minimize their reliance on the incumbents' facilities.¹³⁹

¹³⁸ *Line Sharing Order*, 14 FCC Rcd at 20926, ¶ 25.

¹³⁹ *UNE Remand Order*, 15 FCC Rcd at 3789, ¶ 205.

Unbundling of the low frequency spectrum does not satisfy these Commission objectives, but rather will serve only as a disincentive to CLEC investment in loops as it will enable CLECs to purchase unbundled loops for voice at lower prices.

Particularly significant to CompTel's argument is that it is wholly lacking in any impairment analysis. Irrespective of whether the low frequency spectrum is a subloop or a new UNE, it cannot be unbundled absent evidence that lack of access to the low frequency spectrum impairs the CLEC's ability to provide a service it seeks to offer. In the case of low frequency spectrum, lack of access will not be an impairment.

In conducting an impairment analysis, the Commission must consider "the extent to which alternatives in the market are available as a practical, economic, and operational matter."¹⁴⁰ Once an alternative is identified, the Commission must rely on the following five factors in determining whether that alternative is practically, economically and operationally available: cost, timeliness, quality, ubiquity and impact on network operations.

The alternative to low frequency spectrum unbundling – the unbundled loop – is available as a practical, economic and operational matter. Applying the five factors, there is no material difference between the low frequency spectrum and an unbundled loop. In fact, the timeliness, quality, ubiquity and impact on network operations should be the same for both the unbundled loop and the low frequency spectrum. The only difference would be price. The low frequency spectrum would, at least from CompTel's perspective, be less expensive than a full loop, because the CLEC, so CompTel contends, should only pay for a portion of the loop.

¹⁴⁰ 47 C.F.R. § 51.317(b)(2).

The anticipated price reduction to the CLEC is nothing more than an arbitrage vehicle. Unbundling the low frequency spectrum by definition requires the incumbent to retain the balance of the loop. Because of the relatively low penetration of DSL, in the overwhelming majority of instances the high frequency portion of the loop will go unused.¹⁴¹ Nevertheless, the cost of the loop has not changed. Instead, for those end users with no interest in DSL, the CLEC could simply purchase the low frequency portion of the loop, knowing that there would be no value to the high frequency portion that remains with the incumbent. In contrast, when an end user desires DSL, the CLEC could purchase the entire loop, and either provide its own facility-based DSL to the end user or enter into a line splitting arrangement with a data LEC for the provision of that data LEC's facility-based DSL.

Declaring the low frequency spectrum to be a UNE would not serve to further the purposes of the Act. It would simply provide CLECs with a lower priced voice loop and would be a disincentive to investment in physical plant.¹⁴²

B. Comments About ILEC Investment Are Off the Mark.{ TC "B. Comments About ILEC Investment Are Off the Mark." \f C \l "2" }

¹⁴¹ DSL penetration in 2001 has been estimated at less than 4%, and is predicted to be less than 13% by 2005, the effect of which is that by 2005 the high frequency portion of the loop will be unused for 87% of the access lines. See Comments of BellSouth, filed March 1, 2002, in *In the Matter of Review of Regulatory Requirements for Incumbent LEC Broadband Telecommunications Services*, CC Docket No. 01-337, Exhibit 1, p. 7 (“[O]ne analyst estimates that about 10% of American households (10.85 million households, by end of 2001) use broadband access to the Internet and other networks (e.g., enterprise LANs for work-at-home). Of those with broadband access, 58% are using cable modem, 37% are using DSL, and 5% are using another technology (wireless, satellite). Penetration rates are expected to increase rapidly, to 35%, or 41 million households by 2005, with market shares of 53% cable modem, 35% DSL, 9% satellite and 3% optical.”).

¹⁴² Further more, if the Commission created a new low frequency UNE, it would require a re-evaluation of loop cost recovery. To the extent that cost recovery was shifted to the high frequency portion of the loop, the cost of broadband would increase thereby dampening broadband demand.

WorldCom and others claim that unbundling requirements have not significantly reduced ILEC investment, and that ILEC investment and price increases demonstrate that unbundling and investment can co-exist. These allegations are simply wrong. In the first place, whatever investment has taken place has occurred in the context of minimum advanced services unbundling. Indeed, continued investment in DSL infrastructure has occurred, in part, because the public comments of FCC Commissioners indicate recognition of the need to increase incentives for facilities-based competition and investment in advanced telecommunications infrastructure.¹⁴³

BellSouth has no monopoly in the advanced services market. Cable modem service, not DSL, is the prevalent technology in this market. Many of the total 25 million access line customers region-wide have cable modem service and will not likely switch to BellSouth's ADSL service. Although DSL is *available* to 70% of the access lines, currently, a small fraction of the 25 million access lines actually have DSL service. There are far more potential customers for WorldCom that do not have BellSouth's DSL than that do have it. Indeed, the 809,000 DSL customers make up only 3.2% of the total access lines. Furthermore, Professor Harris conclusively refutes the assertion that recent DSL price increases are consistent with the exercise of market power – quite the opposite, they are, in fact, consistent with the business case for continued investment in DSL enabling infrastructure that will not turn cash flow positive in the near future.¹⁴⁴

In sum, the Commission should reduce the regulatory burden on ILECs and send a clear signal to the industry that it encourages investment in network infrastructure and remove the risk

¹⁴³ Harris Reply Decl. at 23-24, ¶ 35.

¹⁴⁴ Harris Reply Decl. at 13, ¶ 18.

of any carrier having to share facilities at below market rates. It should declare that there are no impairments to the provision of advanced services, that ILECs need not unbundle their broadband networks, and that states may not take any action inconsistent with these determinations.

V. CMRS PROVIDERS ARE NOT IMPAIRED WITHOUT ACCESS TO ILEC UNES.{ TC "V. CMRS PROVIDERS ARE NOT IMPAIRED WITHOUT ACCESS TO ILEC UNES." \f C \l "1" }

A. The Commission Should Undertake a CMRS Specific Impairment Analysis.{

TC "A. The Commission Should Undertake a CMRS Specific Impairment Analysis." \f C \l "2" }

The Commission seeks comment on whether it should evaluate the specific services a requesting carrier seeks to offer when determining which elements should be unbundled under section 251(d)(2).¹⁴⁵ Further the Commission asks whether the level of competition for a particular service should be considered.¹⁴⁶ Invoking the example of CMRS providers' access to UNEs, the Commission further inquires whether particular market characteristics should impact its unbundling determinations.¹⁴⁷ CMRS carriers have commented that such a service-specific analysis would be inappropriate and possibly unlawful.¹⁴⁸ BellSouth disagrees. Without a specific analysis of services, the Commission is lacking what it needs to determine if, in fact, impairment exists without access to certain unbundled network elements.

As the Supreme Court said in *Iowa Utilities Board*, "if Congress had wanted to give blanket access to incumbents' networks on a basis as unrestricted as the scheme the Commission

¹⁴⁵ *NPRM* at 22799, ¶ 37.

¹⁴⁶ *Id.*, ¶ 38.

¹⁴⁷ *Id.*

¹⁴⁸ *See* Comments of Arch Wireless, Inc. at 5 and AT&T Wireless Services, Inc. at 17.

has come up with, it would not have included 251(d)(2) in the statute at all.”¹⁴⁹ Instead, the necessary and impair standard was incorporated into the Act to ensure that the Commission “determine on a rational basis which network elements must be made available.”¹⁵⁰ The U.S. Appeals Court for the D.C. Circuit recently held that Congress made impairment the “touchstone” of the 251(d)(2) unbundling analysis.¹⁵¹ “But to the extent that the Commission orders access to UNEs in circumstances where there is little or no reason to think that its absence will genuinely impair competition that might otherwise occur, we believe it must point to something a bit more concrete than its belief in the beneficence of the widest unbundling possible.”¹⁵² Here, the Court’s decision in remanding the Local Competition Order supports the arguments made by BellSouth, Verizon and SBC that the Commission must conduct a separate impairment analysis before it can allow access to UNEs by wireless carriers.¹⁵³ If an impairment analysis specific to wireless services is not conducted, the Commission will be blatantly ignoring the legislative intent of the Act.

B. Wireless Carriers Are Not and Cannot Be Considered Impaired.{ TC "B. Wireless Carriers Are Not and Cannot Be Considered Impaired." \f C \l "2" }

The wireless carrier commenters have all asserted that they are impaired without access to UNEs, specifically unbundled dedicated transport.¹⁵⁴ Oddly, this supposedly impaired

¹⁴⁹ *Iowa Utilities Board*, 525 U.S. at 390.

¹⁵⁰ *Id.* at 391-92.

¹⁵¹ *USTA v. FCC*, 290 F.3d at 425.

¹⁵² *Id.*

¹⁵³ See generally BellSouth Comments at 46-59, Verizon Comments at 38-40, and SBC Comments at 24-25.

¹⁵⁴ See generally Comments of VoiceStream Wireless, Inc., AT&T Wireless Services, Inc. Arch Paging, Inc., Nextel Communications, Inc., Progress Telecom Corporation, Dobson Communications Corp, and the Cellular Telecommunications & Internet Association.

industry has continued to thrive even during a national economic downturn. As of July 5, 2002, the wireless industry boasts an impressive 137.4 million subscribers,¹⁵⁵ 4 million **more** subscribers than it had three months ago.¹⁵⁶ Further, industry data shows that wireless carriers have been able to increase market penetration, add a substantial number of cell sites, and decrease operating expenses all at the same time. In the face of clear evidence of their success as intermodal competitors, and the promising prognosis for continued strength and competitive progress, their remarkable success at the retail level simply could not have been possible if they had been impaired at the wholesale level.¹⁵⁷

For example, the CTIA's own survey data showed subscriber growth up 17.3% from December 2000 to December 2001.¹⁵⁸ Similarly, revenues increased 22.6% during the same time period.¹⁵⁹ Of particular significance was a 22.3% growth in the number of cell sites while capital investment only increased 17.2%.¹⁶⁰ When subscriber growth and network growth clearly exceed investment expense increases, it is difficult, if not impossible, to conclude that the wireless industry is impaired without UNEs.

Despite the impressive growth statistics and self-proclaimed success,¹⁶¹ the CMRS providers continue to cry impairment. The wireless carriers would have the Commission believe

¹⁵⁵ CTIA's World of Wireless Communications, <http://www.wow-com.com>, as of July 5, 2002.

¹⁵⁶ *Id.* as of March 31, 2002.

¹⁵⁷ NERA Reply Decl. at 111-12.

¹⁵⁸ CTIA's Wireless Industry Indices: 1985-2001. CTIA's World of Wireless Communications, <http://www.wow-com.com>.

¹⁵⁹ *Id.*

¹⁶⁰ *Id.*

¹⁶¹ AT&T Wireless Comments at 18. See NERA Reply Declaration, Table 18 for data released by CTIA demonstrating that CRMS providers have performed spectacularly on a number of different indicators.

that they are impaired because there are no suitable alternatives to ILEC transport facilities, completely ignoring self-provisioning as an option. However, many of their woes can simply be attributed to costs. For example, AT&T Wireless alleges that self-provisioning would be too costly to cover its national footprint.¹⁶² Nextel states that while “CMRS carriers could build their own landline facilities to each cell site, such an expense would represent a daunting additional expense.”¹⁶³ VoiceStream Wireless argues that because it is “not in the business of constructing landline circuits” it should be entitled to UNE pricing because it has to cover a substantial amount of ground to connect its network of cell sites.¹⁶⁴

Such arguments are absurd. The car manufacturer who is “not in the business” of producing tires knows full well it must provide tires to a customer. Neither the car manufacturer nor the government would expect that the tire manufacturer sell the tires to the car company at cost-based rates. But that is exactly what the wireless carriers are asking for here. VoiceStream goes so far as to state that, by obtaining UNE pricing, “CMRS carriers could lower their recurring operating costs.”¹⁶⁵ Cheaper rates offered to *any* business by a supplier would cause the business to lower its operating costs. But simply having to pay a supplier at rates above cost-based rates is not sufficient to claim impairment. The Supreme Court stated in *Iowa Utilities Board* and the D.C. Circuit recently reaffirmed in *USTA v. FCC* that cost alone is not sufficient to prove impairment.¹⁶⁶ The cost disparity underlying a claim of impairment must relate to the

¹⁶² AT&T Wireless Comments at 11.

¹⁶³ Nextel Comments at 7.

¹⁶⁴ VoiceStream Comments at 7.

¹⁶⁵ VoiceStream Comments at 4.

¹⁶⁶ “To rely on cost disparities that are universal as between new entrants and incumbents in any industry is to invoke a concept too broad, even in support of an initial mandate, to be reasonably linked to the purpose of the Act’s unbundling provisions.” *USTA v. FCC*, 290 F.3d at 427.

ILEC's possession of an economy of scale that approaches a natural monopoly and the facts on the ground indicate that ILECs have no natural monopoly on interoffice transmission facilities, which have been competitively provisioned for nearly two decades, and which have seen a significant build out of CLEC networks and competitive sources of transport in the BellSouth region in the past three years.¹⁶⁷

In their comments, the wireless carriers have failed to acknowledge the goal of the Act: to allow new entrants into the marketplace and afford them access to an incumbent's network in order to promote and foster competition that would ultimately result in competitive pricing between the incumbent and the new entrant. In the wireless arena, the CMRS providers are hardly new entrants. The wireless industry has been around for nearly twenty years.¹⁶⁸ The wireless carriers had established their own networks long before the Act. And while those networks have further expanded and developed, the carriers were able to do so without UNEs and still grow in infinite proportions and reach substantial revenues over \$65 billion in 2001.¹⁶⁹ Although the CMRS provider is considered a "telecommunications carrier," it is not the "new entrant" that Congress intended to compete for local wireline subscribers. As such, the Act, the Commission's rules, and judicial decisions interpreting those rules, have repeatedly left out any analysis as it pertains to wireless carriers. Wireless carriers are not impaired without access to ILEC UNEs. Further, wireless carriers themselves have proven that wireless services can be a true form of intermodal competition without the need for UNEs. The wireless industry has

¹⁶⁷ NERA Reply Decl. at 97-106.

¹⁶⁸ CTIA's Wireless Industry Indices: A Comprehensive Report on CTIA's Annual Data Survey Results, July 2001, at 1.

¹⁶⁹ *Id.*

achieved, through a comparatively less regulated federal framework than the wireline industry, the goals of deregulatory, facilities-based competition envisioned by the Act.

Indeed, wireless pricing is truly competitive with wireline ILEC pricing.¹⁷⁰ In some cases, wireless carriers are offering services to consumers for rates lower than wireline ILEC providers. As such, there is no rational basis for the Commission to conclude that wireless carriers are somehow impaired without access to UNEs. To do so would make UNEs available in “many markets where there is no reasonable basis for thinking that competition is suffering from a impairment of a sort that might have been the object of Congress’s concern.”¹⁷¹

At the individual CMRS carrier level, it is worthwhile to examine the recent history of AT&T Wireless, Nextel, and VoiceStream, the three CMRS carriers that have petitioned the Commission to extend its unbundling rules to ILEC transport facilities. NERA does so, exhaustively, in the attached Reply Declaration at pages 116-129. All three carriers experienced subscriber growth since the *UNE Remand Order*. All three experienced robust revenue growth despite economic slowdowns, falling prices for wireless services and increased competition among CMRS carriers. Service revenue per subscriber trended upward. And while all three experienced rising costs, including wholesale costs to provide service, much of that cost increase can be attributed to subscribership growth and expansion of network operations—the wholesale costs per subscriber of the three carriers have actually fallen or stayed flat during the last three years.¹⁷²

Moreover, NERA proves that the CMRS carriers do not sufficiently establish or explain why, from an economic standpoint, CMRS carriers cannot feasibly self-provision dedicated

¹⁷⁰ See NERA Reply Decl. at 114.

¹⁷¹ *USTA v. FCC*, 290 F3d at 422.

¹⁷² NERA Reply Decl. at 116-22 & Table 19.

transport.¹⁷³ The CMRS providers are simply pleading for special access circuits at prices that are significantly lower than those they currently pay, and have not provided any evidence of competitive harm to CMRS carriers. Further, confident and celebratory public statements of the most senior officials of the three petitioning CMRS carriers **do not** conjure up a persuasive picture of impaired and competitively harmed entities for which salvation only lies in requiring ILECs to offer competitive transport on an unbundled basis.¹⁷⁴ Fundamentally, these carriers have entered this debate more with opportunistic intent than with plain hard facts, in the absence of any rigorous demonstration of how they have been impaired or competitively harmed, and in the face of incontrovertible financial and performance evidence that controvert their own claims, they fail to make a persuasive case.¹⁷⁵

C. The Commission Should Not Broaden the Definition of Transport.{ TC "C.

The Commission Should Not Broaden the Definition of Transport." \f C \l "2"

}

Several carrier commenters, both wireless carriers and CLECs, have asserted that the Commission should broaden its definition of dedicated transport to include facilities within a wireless network, specifically those circuits from cell sites to switching centers.¹⁷⁶ The carriers are seeking a broader definition because, under the current rules, a facility between a cell site and an end office or switch does not meet the Commission's definition of transport.¹⁷⁷ The carriers

¹⁷³ *Id.* at 123.

¹⁷⁴ *Id.* at 126.

¹⁷⁵ *Id.* at 128-129.

¹⁷⁶ *See, e.g.,* Nextel Comments at 8-9 and VoiceStream Comments at 8-9.

¹⁷⁷ 47 C.F.R. § 51.319(d)(1)(i). *See also* BellSouth Comments at 55.

would like the Commission to believe that such circuits meet the definition of transport.¹⁷⁸

However, the carriers themselves admit that the “interplay” between the cell site and the switch is necessary for call transmission.¹⁷⁹ Therefore, BellSouth urges the Commission to review the wireless carriers’ own vendors’ network technical specifications, which demonstrate that a cell site is not the functional equivalent of a switch, and cannot be considered a switch of any kind.¹⁸⁰

The Commission should not expand the scope of its transport definition for two reasons. First, ILECs are not required to unbundle new facilities.¹⁸¹ ILECs provision facilities to cell sites for the sole use of the CMRS provider.¹⁸² There would have been absolutely no need for an ILEC to install and maintain such facilities other than to satisfy the request of a wireless carrier customer. Indeed, the point-to-point transmission facilities to cell sites were not, and are not, part of the ILEC’s existing underlying network. Second, for the reasons stated above as well as in BellSouth’s initial comments, wireless carriers are simply not impaired without access to UNEs.

In addition, AT&T Wireless has requested that SONET be included within the Commission’s definition of dedicated transport.¹⁸³ BellSouth urges the Commission to dismiss such a request. Although a SONET ring may be pieced together using some existing ILEC facilities, all rings deployed for CMRS providers are, in essence, newly constructed facilities

¹⁷⁸ AT&T Wireless Comments at 28.

¹⁷⁹ *Id.*

¹⁸⁰ See BellSouth *ex parte* filed August 22, 2001 in CC Docket No. 96-98.

¹⁸¹ *UNE Remand Order*, 15 FCC Rcd at 3843, ¶ 324.

¹⁸² The facilities may also be provisioned for the use of a CLEC serving a CMRS carrier customer. It is important for the Commission to note that wireless carriers are attempting to game the ILECs by using CLECs to order UNE transport facilities to cell sites on their behalf. BellSouth asserts that such use of UNEs by a CLEC is also improper because the UNE is being ordered to ultimately provide wireless services.

¹⁸³ AT&T Wireless Comments at 30-32.

and, therefore, not subject to unbundling requirements.¹⁸⁴ Again, there is no evidence to support a finding of impairment by the wireless industry without access to unbundled SONET. As explained by BellSouth, inter-office transmission facilities such as dedicated transport may only be provided as UNEs to link switches or wire centers.¹⁸⁵

D. CMRS Carriers Should Pay Termination Liability{ TC "D. CMRS Carriers Should Pay Termination Liability" \f C \l "2" }.

In anticipation of a favorable ruling by the Commission, both VoiceStream and AT&T Wireless have suggested opportunistically that the Commission allow them to abrogate their contractual duties with ILECs in order to avoid termination liabilities resulting from potentially converting existing special access arrangements to UNEs.¹⁸⁶ AT&T Wireless alleges that it has been “forced to utilize ILEC special access facilities”¹⁸⁷ despite the fact that it never even requested UNEs from BellSouth until 2001. To date, these carriers have purchased tariff services from BellSouth under discounted volume or term arrangements. Because the term arrangements have termination charges, the carriers seek to avoid them by claiming they were forced to enter into these arrangements. However, rather than paying the higher priced month-to-month charges, the carriers have generally paid lower rates than they would have paid if they were not under contract. In exchange for these favorable rates, CMRS providers agree to pay termination liabilities in the event the contracts are terminated early. Now, the wireless carriers are asking the Commission to not only allow them to convert certain special access circuits to UNEs but also avoid their obligations as set forth in the tariff. The Commission should not alter

¹⁸⁴ See BellSouth Comments at 56-57, stating that all SONET rings are built to exact carrier capacity requirements and specifications.

¹⁸⁵ NERA Reply Decl. at 111.

¹⁸⁶ VoiceStream Comments at 16; AT&T Wireless Comments at 32.

¹⁸⁷ AT&T Wireless Comments at 36.

or otherwise impair the obligations between ILECs and wireless carriers established by lawful tariffs. Moreover, doing so would essentially discriminate against two other classes of customers: (1) those carriers who do have to pay termination liabilities for early terminations, and (2) those carriers who purchase services on a month-to-month basis paying a higher rate precisely because they did not want to possibly incur termination penalties. Accepting the position of AT&T Wireless and VoiceStream would discriminate against both these classes of customers.

Further, AT&T Wireless is calling for a “fresh look” at its contracts in light of its belief that it is entitled to UNEs.¹⁸⁸ First, BellSouth believes that this request is wholly premature. Until the Commission rules otherwise, wireless carriers are not entitled to UNEs. Second, the “fresh look” approach is not universally accepted as it allows the Commission to interfere with a bargain that was freely entered into by two parties that are more than capable of understanding the consequences of their actions. The Commission should not abrogate contractual arrangements that were knowingly entered into by the parties. For example, at the time AT&T Wireless signed its latest volume and term agreement with BellSouth, AT&T Wireless was made aware that BellSouth was not going to provide AT&T Wireless access to UNEs and purchasing into the services pursuant to a term plan arrangement would, in fact, result in termination liability if AT&T Wireless sought to terminate the arrangement prior to expiration. Instead of choosing a higher priced month-to-month service with no termination penalties, AT&T Wireless simply availed itself of the cheapest price it could without regard for the consequences. Accordingly, the Commission should not interfere term arrangement between BellSouth and AT&T Wireless or between any ILEC and CMRS provider.

¹⁸⁸ AT&T Wireless Comments at 32.

VI. TELRIC PRICING HAS NEGATIVE EFFECTS ON INVESTMENT AND INNOVATION.^{ TC "VI. TELRIC PRICING HAS NEGATIVE EFFECTS ON INVESTMENT AND" \f C \l "1" }

Both the NERA and Leo analyses demonstrate that UNE-P, and its attendant TELRIC-based pricing, do not facilitate facilities-based competition, particularly in residential markets, but rather impede it.¹⁸⁹ Professor Harris demonstrates that the same effect will hold for advanced services.¹⁹⁰ Professor Shelanski notes that the legal validity of TELRIC-based pricing “has no bearing whatsoever on the economic propriety of unbundling.”¹⁹¹ Others put it more bluntly: “while the Supreme Court case represents a *legal* victory for the FCC, the case does nothing to restore confidence in the FCC’s economics.”¹⁹²

Unbundling proponents will no doubt make much of the *Verizon* Court’s observation that that there has been \$55 billion in construction of competing networks by CLECs between 1996 and 2000 under the FCC rules.¹⁹³ As CEI points out, however, here the court “finesses” the central issue, whether there could have been and should have been more investment:

The FCC may have acted legally, but that does not mean it acted wisely. TELRIC has been in effect for several years, as the linchpin of the FCC’s plan to jumpstart competition in residential areas by encouraging CLECs to lease networks from the RBOCs at wholesale and resell at retail. But it has not worked. However cheap the price at which the resellers can buy, they haven’t attracted many residential customers and many seem better at slamming than at service.

Where *has* local competition grown?

¹⁸⁹ NERA Reply Decl. at 44-45, “UNE Platforms and Investment,” attached as Attachment 4, at 2-5.

¹⁹⁰ Harris Reply Decl. at 16-26, ¶¶ 22-38.

¹⁹¹ Shelanski Decl., ¶ 28.

¹⁹² Solveig Singleton, Competitive Enterprise Institute’s Weekly Commentary: *The Supreme Court’s Telric Decision: “Legal” does not Mean “Smart,”* May 16, 2002; available at www.cei.org/gencom/016.03015.cfm (“Singleton Commentary”).

¹⁹³ *Verizon v. FCC*, 122 S. Ct. at 1675.

In business areas where the prices the incumbents charged their customers were held high by regulation, and competing carriers built fiber optic networks to compete with local phone companies back in the 1980s;

- From wireless services that bypass incumbent's access lines;
- From email, which substitutes for many local phone calls.¹⁹⁴

Thus, while evidence of levels of ILEC investment coexisting with UNE-P and TELRIC-based pricing may have helped persuade the Supreme Court that one of the ILECs' policy objections to TELRIC was not enough to prove the Commission's choice of TELRIC arbitrary or capricious under *Chevron*, it does not answer the question of whether the Commission should adopt policies favoring TELRIC-based pricing on a going forward basis. NERA demonstrates that while the availability of UNE-P with its TELRIC-based pricing can be a great advantage to CLECs, unbundling proponents have presented no evidence to substantiate their claim that UNE-P availability benefits consumers in the long run.¹⁹⁵ NERA demonstrates to the contrary, however, that the grant of unbundling relief when the conditions for impairment are no longer satisfied can, in fact prove beneficial for overall social welfare.¹⁹⁶

The conditions for impairment are no longer satisfied with respect to circuit switching or signaling networks and AIN anywhere within the nine southern states in BellSouth's region. The conditions for impairment are no longer satisfied for inter-office transport and for high-capacity loops, in the 20 MSAs in the BellSouth region that are ranked in the top 100 MSAs nationally and in which BellSouth has a significant service presence. The conditions for impairment never existed for non-ILEC providers in the broadband access (advanced services market) or for CMRS providers. Continued or new unbundling policies in these markets, particularly at

¹⁹⁴ Singleton Commentary.

¹⁹⁵ NERA Reply Decl. at 41; see entire NERA discussion at 40-45.

¹⁹⁶ NERA Reply Decl. at 32-33.

TELRIC-based rates, will discourage investment, efficiency, and are contrary to the deregulatory goals of the 1996 Act.¹⁹⁷ The Commission must reduce and prohibit unbundling in these areas, and send a clear message to the states that they may not legally take any action inconsistent with these decisions.

VII. THE COMMISSION HAS A NON-DELEGABLE DUTY TO IMPLEMENT THE UNBUNDLING OBLIGATIONS OF SECTION 251 IN A MANNER THAT PRECLUDES INCONSISTENT STATE DECISIONS.{ TC "VII. THE COMMISSION HAS A NON-DELEGABLE DUTY TO IMPLEMENT THE UNBUNDLING OBLIGATIONS OF SECTION 251 IN A MANNER THAT PRECLUDES INCONSISTENT STATE DECISIONS." \f C \l "1" }

Sixteen state public service commissions filed comments in this proceeding. That fourteen of those states, as well as NARUC, specifically argued against reducing the national list of UNEs, and in favor of preserving the states' authority to add to the national list of UNEs, demonstrates the regulatory havoc that will ensue if this Commission does not make clear that states may not make inconsistent decisions concerning impairments once this Commission has considered the matter. For instance, the California Commission states:

California urges the FCC not to reduce the unbundling obligations imposed on ILECs unless there is a clear and convincing need to do so. Indeed, given current market conditions, it may be appropriate to require more, not less, unbundling.¹⁹⁸

It appears that states are prone to use their authority to require additional unbundling and the corresponding TELRIC pricing in order to "correct" what they perceive to be market distortions within their states. It is unfortunate that state commissions, are tempted to reach for the TELRIC tonic as an instant elixir to try to cure perceived problems during business slowdowns notwithstanding the lack of a clear legal impairment within the federal Act. Indeed, BellSouth

¹⁹⁷ NERA Reply Decl. at 31-33, *passim*.

¹⁹⁸ Comments of the People of the State of California and the California Public Utilities Commission at 5.

provided data in its Comments detailing the actions that state commissions were taking, and Z-Tel recently attributed successful financial reports to the actions of state commissions' reducing UNE-P pricing.¹⁹⁹ This is indeed powerful tonic for state commissions anxious to placate the incessant demands of CLECs.

Yet, as NERA demonstrates, a certain amount of Darwinian winnowing will occur in markets over time and across business cycles.²⁰⁰ This is expected in competitive markets and state regulators should not use their authority to require additional unbundling as a means to prevent these fluctuations. Facilities-based CLECs are hurt by promiscuous and unnecessary UNE regulation, and consequently the 1996 Act's goals of facilities-based competition are also compromised. As Professor Shelanski notes, using UNE policy to preserve firms that have not proven viable will harm those competitors that are surviving the changing economic cycle for telecommunications and reward and perpetuate the inefficiency of those firms that would otherwise have left the market.²⁰¹

The facts on the ground demonstrate that there is no need to add new UNEs to the national list at this time, and substantial empirical evidence exists to support relaxing current unbundling requirements. The Commission should therefore reject the demands of state commissions that the current list be retained or expanded, or that they be given authority to expand the list in their states on an ad hoc basis. When the Commission has determined that carriers are not impaired without access to certain UNEs in certain markets, states are simply not free under the Act to make a contrary determination.²⁰² Currently, many state decisions have

¹⁹⁹ Communications Daily, June 11, 2002 at 5.

²⁰⁰ NERA Reply Decl. at 23.

²⁰¹ Shelanski Reply Decl., ¶ 28.

²⁰² 47 U.S.C. § 251 (d)(3).

required unbundling of elements that the Commission has already decided should not be on the national list. Those state decisions are contrary to the Commission's determinations, and should be expressly preempted by this Commission.

Comments filed by the National Association of Regulatory Utility Commissioners

("NARUC") include resolutions that state, in part:

RESOLVED, That the Board of Directors of the National Association of Regulatory Utility Commissioners (NARUC), ... urges the FCC to recognize that States may continue to require additional unbundling to that required by the FCC's national minimum; *and be it further RESOLVED, That such additional unbundling is consistent with the purposes of the federal Telecommunications Act of 1996, and in accordance with State or federal law;*²⁰³

BellSouth respectfully asserts that additional unbundling by state commissions is not consistent with the competitive goals of the Act. Where the facts demonstrate impairment, the Commission may require unbundling under the Act. If the Commission does not make such a finding, then a state simply cannot make a contrary finding. To allow states to make inconsistent impairment determinations is to allow the same issue to be relitigated in multiple forums across the nation with potentially inconsistent results. And where state commissions find "impairment" when the FCC has not, it can impose a regulatory regime that has demonstrated distortive and disincentive effects on markets and investment, thus undermining the workings of interrelated markets across the country. These regulatory costs constitute a drag on the telecommunications economy that this Commission should not countenance.

²⁰³ NARUC Comments at 12 (italics added).

Some states have expressed the need to recognize geographic differences, availability of alternatives and local competition as reasons that the states should have the authority to add to a national list of UNEs. New York, for example, states that:

The level of competition in each state is directly affected by which UNEs are available in that state. The analysis to determine which UNEs should be unbundled in a state is fact specific and must consider conditions in each particular market.²⁰⁴

Similarly, Pennsylvania, in advocating for states' ability to add network elements to the list, says that such authority "allows an individual state to tailor its UNE requirements to the needs of that particular state and to address state-specific issues, including those of a technical, demographic or geographic nature."²⁰⁵

BellSouth advocates for a more nuanced and targeted impairment analysis that takes into account specific markets, specifically MSAs, in accordance with the guidance recently issued by the *USTA* Court. However, states have a duty to present such state-specific facts about market conditions, including those of "technical, demographic or geographic nature" to this Commission in the context of this *Triennial Review* proceeding, especially in light of the substantial factual data about specific markets presented in the comments and reply comments in this proceeding. The Commission should address any fact-specific issues raised by the states with respect to unbundling in the context of this docket, and make allowances as necessary for geographic differences, as it did with the unbundled switching exemption. States should lay all of their cards on the table in this proceeding, and not be allowed to lay low and make inconsistent determinations later based on evidence that they could have presented here in the first instance

²⁰⁴ Comments of the New York State Department of Public Service at 8.

²⁰⁵ Comments of the Pennsylvania Public Utility Commission at 5.

(the various extensions of time since the December 2001 *NPRM* have certainly provided states ample opportunity to express these facts and opinions with their comments in this docket; indeed, the Commission announced this *Triennial Review* three years ago in the 1999 *UNE Remand Order*).

As one market analyst has astutely observed:

The FCC and state regulators must have common goals and principles if actions taken in this proceeding are to have a positive impact. The strategy that the FCC creates in these cumulative proceedings must be the foundation of a national telecommunications policy. Pocket veto by state regulators will ensure that the goals of increased competitive choice, reasonable price and availability of services will not be met. It will cause continued uncertainty in the market and prolong the telecom market's decline.²⁰⁶

Giving states authority to adjust the national list of UNEs does not, in fact, promote consistent treatment in similar demographic or geographic areas. As stated by Qwest in its Comments:

[D]elegating greater authority to states to define or apply unbundling rules would lead almost inevitably to inconsistent and improper application of federal standards based on individual states' "policy" choices. State-by-state analysis harms CLECs particularly because it increases exponentially the uncertainty and thus makes more precarious their access to capital.²⁰⁷

Qwest drastically illustrates the dangers of piecemeal policy implementation in its comments. Referring to comments in the UNE Remand proceeding, in which both Illinois and Ohio PSCs applied the "necessary and impair" standard of Section 251(c)(3) to come up with a list of UNEs to which ILECs must provide access:

²⁰⁶ Gartner Dataquest, "UNEs: Stifling US Broadband Growth and Ineffective in Promoting Local Competition," Market Analysis (Feb. 27, 2002).

²⁰⁷ Comments of Qwest Communications International, Inc. at 17-18.

Illinois favored unbundling of most if not all of the ILECs' networks, while Ohio proposed unbundling significantly fewer elements. . . . Because both states are very similar demographically and in other relevant respects, the radical difference in their conclusions can only be attributed to different policy preferences.²⁰⁸

Several states have suggested that the Commission should establish guidelines for deciding whether a CLEC is impaired without availability of a given network element on an unbundled basis. For example, the Massachusetts Department of Telecommunications and Energy ("MDTE") states:

The FCC should also provide guidelines on the factors to be assessed when applying the "necessary" and "impair" statutory standard for adding/deleting UNEs. The FCC has extensive experience in this area, and national standards would ensure a more uniform standard of review in implementing unbundling requirements. The FCC should place the burden on a proponent to show that a particular network element should be added or deleted from the unbundling requirements, and that burden should be sufficiently strict to discourage spurious petitions for relief from or additions to the unbundling requirements.²⁰⁹

Similarly, the Public Utilities Commission of Ohio, discussing the determination of "necessary" and "impairment" standards, states:

[T]he FCC should utilize the factors discussed in the NPRM to formulate a set of guidelines/standards that could be followed by State commissions.²¹⁰

Because the Commission's own impairment analyses and list of UNEs have been rejected twice by federal appellate courts as being overbroad, current state requirements that exceed the Commission's current UNE requirements (and that were adopted on those now twice-rejected federal requirements) must necessarily be overbroad and should be expressly preempted by the

²⁰⁸ *Id.* at 17 n.29.

²⁰⁹ MDTE Comments at 5.

²¹⁰ Comments of the Public Utilities Commission of Ohio at 5.

Commission. So the Commission should expressly preempt any additional regulation imposed by state commissions prior to a Commission ruling in this proceeding. Once the Commission rules in this proceeding, it must make clear that states are not free to add to the list. If, however, the Commission deems it appropriate to allow states to expand the national list of unbundling requirements by determining that CLECs meet the “necessary” and “impair” tests, BellSouth strongly urges the Commission to issue more specific guidelines or standards for applying those tests.

Allowing states to add UNEs to the national list is detrimental to CLECs for the same reasons that it is detrimental to ILECs. CLECs as well as ILECs need to be able to deploy network capabilities and systems on a consistent basis throughout their service territory. The reasons that the states give for maintaining a national list of UNEs also support the ILECs’ position that adding to the national list is not appropriate.²¹¹

As BellSouth stated in its initial comments, if certainty and predictability are reasons for not removing items from the national list of UNEs, they should also be arguments against adding to the national list of UNEs.²¹² Whereas CLECs need to be able to implement regional and national business plans, so do ILECs. Furthermore, a multiplicity of requirements provides uncertainty for the telecommunications industry as a whole, because vendors such as equipment manufacturers need to structure their business plans to meet the network requirements of CLECs

²¹¹ See, for example, the Comments of Pennsylvania at 5, “A national minimum list of UNEs provides competing carriers with certainty regarding the availability of these network elements” (citing *UNE Remand Order*, ¶ 125).

²¹² As BellSouth advocated in its comments, and in keeping with the deregulatory nature of the 1996 Act, all unbundling requirements should be subject to an automatic two year sunset provision. At each biennial review, the Commission, together with the proponents of continued unbundling, should have the burden of proving that any unbundling provision should be retained. This would eliminate the time expense of individual state proceedings, whether to add or subtract UNEs from the list. Comments of BellSouth at 66, 72.

and ILECs in multiple states. None of the states' comments advocating their authority to add to or remove items from the national list explain persuasively how such authority would fulfill the deregulatory objectives of the Act. It seems particularly counter-intuitive when the FCC has determined that one of the undesirable results of state-by-state removal of UNEs from a national list would be to complicate negotiation of interconnection agreements and lead to increased litigation; clearly the same logic applies where the ability of states to add UNEs would also complicate negotiation of interconnection agreements and lead to increased litigation.

Evidence that the current rule actually promotes increased litigation and regulatory uncertainty is the fact that BellSouth has had to argue the same issues with multiple CLECs in the same state, and with the same CLEC in multiple states, even where a state commission has ruled against creating a new UNE obligation in a previous arbitration proceeding. SBC cites examples of states that have required UNEs in excess of those established by the FCC.²¹³ As another indicator of the increased litigation that is faced by all parties (state regulators, CLECs and ILECs), BellSouth has been an active participant in almost 50 state dockets since the *UNE Remand Order* was issued where a state commission was considering the same type of issues identified by SBC.

In sum, it is up to the Commission, once and for all, to adopt an impairment analysis that is consistent with the limitations imposed by statute and recognized by the federal appellate courts. The Commission must apply this standard to the empirical evidence presented in this proceeding in order to avoid, as a matter of federal unbundling policy, over-inclusive unbundling so as not to distort market outcomes or discourage facilities-based investment. States have had over three months since the empirical data was filed to respond with their own market data;

²¹³ SBC Comments at 40-41.

therefore, the impairment determinations made in this *Triennial Review* proceeding should be determinative on the states and any inconsistent outcomes should be prohibited and preempted by the Commission.

VIII. CONCLUSION{ TC "VIII. CONCLUSION" \f C \l "1" }

In its Comments and in these Reply Comments, BellSouth has provided facts and expert analyses from which conclusions may be drawn regarding the current level of competition; the market for competitive alternatives to ILEC UNEs; and the disincentive effects of unbundling and TELRIC pricing on investment generally, on the growth of facilities-based competition, and on innovation and investment in broadband. Likewise, BellSouth has demonstrated that this Commission should exercise its authority to preclude the state commissions from making unbundling rules that are inconsistent with the competitive goals of the Act.

Based on the record evidence, the Commission should substantially modify its unbundling rules. The recent Court of Appeals decision emphasized the need to take a focused look at the impairment standard, taking into consideration the existence of alternatives to ILEC UNEs in particular markets. The limiting of unbundling to those circumstances where there remains a true impediment to competition is consistent with the pro-competitive goals of the Act and the Commission as expressed by Chairman Powell and other Commissioners that regulation should be limited to those circumstances where it is truly needed to achieve those goals.

Continued availability of all current UNEs in all markets is no longer a competitive necessity under any rational definition of “impairment.” The Commission should acknowledge this market reality and use this *Triennial Review* proceeding to modify its rules accordingly.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I do hereby certify that I have this 17th day of July 2002 served the following parties to this action with a copy of the foregoing **REPLY COMMENTS** by electronic filing and/or by placing a true and correct copy of the same in the United States Mail, postage prepaid, addressed to the parties listed on the attached service list.

/s/ Juanita H. Lee

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BELLSOUTH REPLY COMMENTS

CC Docket No. 01-338

July 17, 2002

ATTACHMENT 1

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)	
)	
Review of the Section 251 Unbundling)	
Obligations of Incumbent Local)	CC Docket No. 01-338
Exchange Carriers)	
)	
Implementation of the Local Competition)	
Provisions in the Telecommunications)	CC Docket No. 96-98
Act of 1996)	
)	
Deployment of Wireline Services)	
Offering Advanced Telecommunications)	CC Docket No. 98-147
Capability)	

Reply Declaration

By

National Economic Research Associates, Inc.

On Behalf of

BellSouth Corporation

July 17, 2002

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EXECUTIVE SUMMARY

A. Introduction

On December 20, 2001, the Federal Communications Commission (“Commission”) issued a Notice of Proposed Rulemaking (“*NPRM*”) in CC Docket Nos. 01-338, 96-98, and 98-147 regarding the future of policies that currently require major incumbent local exchange carriers (“ILECs”), or more specifically, the Regional Bell Operating Companies (“RBOCs”), to unbundle their network elements for the benefit of new competitors. In response, on April 5, 2002, several parties submitted their respective positions on unbundled network elements (“UNEs”).

NERA’s Reply Declaration has two objectives. First, we assess the economic and regulatory principles, arguments, and empirical evidence submitted by some of those parties in response to the *NPRM*. In so doing, we offer alternative perspectives, counter-arguments, and in some cases, corrections or refutations. Second, in keeping with the comprehensive empirical support provided by the UNE Fact Report of 2002 (“*UNE Fact Report*”)—submitted jointly by BellSouth Corporation, SBC Communications, Qwest Corporation, and Verizon Telephone Companies in this proceeding—we provide empirical evidence that documents the progress of unbundling and local competition in BellSouth’s nine-state service territory. This evidence demonstrates that sufficient progress has been made in the last three years to warrant a substantial relaxation of the Commission’s current unbundling rules for network elements.

Specifically, NERA’s Reply Declaration responds to seven economic and regulatory claims made in this regard by competitive local exchange carriers (“CLECs”) and other like-minded parties.

B. CLEC Claim 1 (Re: Intermodal and Intramodal Competition)

The first claim is that intermodal competition, i.e., competition among wireline, cable, wireless, and other carriers, has not constrained ILEC market power and will not do so in the foreseeable future; the only hope is alleged to be UNE-based intramodal competition, i.e.,

competition among wireline carriers themselves. This claim is false because there is substantial evidence—including some amassed by the Commission itself—of the emergence of major intermodal alternatives to wireline service providers, particularly for high-speed and advanced services.

There is near-universal agreement that facilities-based competition alone can fulfill the promise of the Telecommunications Act of 1996 (“1996 Act”). While intermodal competitors like cable and wireless service providers have made substantial investments and commitments in facilities-based entry, a small minority of intramodal wireline competitors (primarily AT&T and WorldCom) have seen an advantage in relying almost exclusively on UNEs and UNE platforms (“UNE-P”) to compete in local exchange markets. This latter group of competitors has adopted a strategy that would continue to provide an argument in favor of maintaining the Commission’s current unbundling rules for the major ILECs. Unfortunately, this is a diversionary tactic for several reasons: (1) it does nothing to enhance intramodal facilities-based competition, (2) it ignores the emergence of facilities-based competition from intermodal rivals, and (3) it appears designed to secure a more or less permanent policy of mandatory unbundling for the major ILECs. Importantly, the UNE-P based competitors are not fledgling entrants deserving of extended public policy protection from the major ILECs; rather, they have considerable telecommunications assets and operations of their own.

The recent history of telecommunications also demonstrates the importance of facilities-based competition. The CLECs that have not survived the emerging competition since the 1996 Act were mainly not facilities-based and relied on questionable business models for their existence. In contrast, facilities-based intermodal competitors relying on more sound business models have gained not only a footing in markets for traditional telecommunications services, but have actually made steady gains in market share against the much larger ILECs. And, as noted, when it comes to advanced services, the Commission’s own records show that the ILECs have no market advantage at all relative to their intermodal competitors. Thus, it is clear that intermodal facilities-based competition is a growing reality that makes it increasingly necessary for the Commission to relax—and ultimately eliminate—its current unbundling policies for the major ILECs.

C. CLEC Claim 2 (Re: Serving Mass-Market Customers and UNEs)

The second claim of CLECs in this proceeding (especially those that rely heavily on UNE-P) is that they cannot serve mass-market customers, i.e., customers with fewer than four access lines, without the continuing availability of UNEs. One CLEC merely asserts that ILECs should be required to provide UNEs where they have market power, and expresses its interest in seeing this standard applied to broadband facilities as well.

This claim flies in the face of the Commission's serious desire to re-evaluate its unbundling policies following significant changes in the telecommunications market over the past three years, the time that has elapsed since the Commission last visited the issue. In particular, the Commission's renewed examination of the "necessary" and "impair" standards and several auxiliary criteria shows a renewed sensitivity on the its part toward anchoring unbundling policies on demonstrated impairment. Unfortunately, the onus for such a demonstration (specifically, that impairment does not exist) remains on the ILEC rather than, as would be more appropriate, on the CLEC requesting UNEs or UNE-P. Even so, the Commission's willingness to grant unbundling relief in limited circumstances (e.g., the switching "carve-out" option for non-mass market customers) establishes a suitable precedent for future relaxation of its unbundling policies.

While the FCC's gradualist approach to unbundling relief is to be welcomed, persisting with unbundling even when impairment no longer occurs inevitably introduces distortions from the standpoint of economic and social welfare. The first distortion occurs when competitive entry is skewed toward the use of UNEs or UNE-P by the availability of network elements at prices below those that would be paid to obtain technically and economically feasible alternatives from other sources. This reduces technical and dynamic efficiency and aggregate social welfare in the long run. The second distortion occurs when technology choices are skewed toward UNEs and UNE-P, dampening CLECs' incentives to invest in their own facilities in the process. At the same time, fearing that CLECs would appropriate much of the reward from innovation while assuming none of the ILECs' risks, the ILECs themselves find

less incentive to invest in more advanced technologies or services. The third distortion occurs as the delay in waiving the unbundling rules, even when those rules are unwarranted by the Commission's own impairment criteria, only perpetuates the need for regulation and consequent litigation and for the Commission to stay engaged in mediating relationships among ILECs and CLECs. These three distortions from continuing unbundling when its time has passed only makes satisfying the five additional criteria specified by the Commission for the impairment test that much more difficult.

A more specific concern arises with respect to continuing unbundling rules for mass market segments while granting unbundling relief in areas where customers are primarily large businesses. The Commission has noted that CLECs tend to deploy their own switches mostly in the 50 largest markets or Metropolitan Statistical Areas ("MSAs"), which also have the largest concentrations of large business customers. It is certainly conceivable then that granting unbundling relief only in those market segments could actually encourage CLECs to deploy their own resources only in those areas, comfortable in the knowledge that ILEC facilities would continue to be available as UNEs wherever mass-market customers predominate.

On the flip side, granting unbundling relief where there is no demonstrable impairment can, in fact, increase overall social welfare. Such relief would preserve ILECs' investment incentives and move competitors toward deploying their own facilities. Customers would be the beneficiaries of efficient, rather than subsidized, competition through greater product variety and lower prices. The transition to market-based pricing of network elements offered previously as UNEs would also improve the efficiency of intramodal competition itself.

D. CLEC Claim 3 (Re: Cost Differentials and Barriers to Entry)

The third CLEC claim is that cost differentials between ILECs and CLECs (and scale economies experienced by ILECs) constitute a barrier to entry for new competitors which, in the view of at least one CLEC, are likely to be insurmountable. This claim too rests on several unsubstantiated assertions and is contradicted by evidence from the marketplace.

In 2001 alone—the year that saw the so-called CLEC meltdown—CLECs invested \$12.3 billion in advanced networks. In the six years since the passage of the 1996 Act, CLECs have collectively invested about \$65 billion, which amounts to more than what intermodal competitors like cable companies have spent on new networks and not far from what the RBOCs have spent themselves. Other marketplace evidence that reinforce the significance of these facts is presented in Section III.F of the NERA Reply Declaration.

Apart from marketplace evidence, economic theory itself throws considerable doubt on this claim of unbundling proponents. Those proponents cite set-up costs, the entrant's lack of knowledge about local operating conditions, and the need for CLECs to compete against the ILEC's strong brand name as factors that cause CLECs to have higher risks and capital costs than ILECs and, consequently, for investors to demand higher hurdle rates. However, while some factors may impart greater risk to CLECs, there are several others that actually reduce risk. For example, unlike ILECs, CLECs do not have to provide service ubiquitously and are at liberty to target the most profitable customers. Also, they are at comparatively less risk of suffering a stranding of their fixed assets when market conditions become adverse. Thus, CLECs may rely on ILEC network resources where their own investments face risk, but deploy the latest and most efficient technologies where those risks are low or manageable. ILECs, in contrast, retain historical public policy obligations and legacy networks which can be considerable burdens in competitive environments.

Seen in this context, CLEC claims about being disadvantaged by the scale economies (or, natural monopoly conditions) allegedly enjoyed by ILECs are largely overblown. So also are the claims that ILECs enjoy much stronger brand name recognition and customer acceptance. Many of the leading CLECs are well-established telecommunications companies in their own right, and some ILECs that have renamed themselves in recent years have shown how quickly brand recognition can be re-established. The CLECs' exaggerated show of helplessness in the face of supposed ILEC goliaths is particularly unpersuasive given that current policies toward ILECs (including mandatory unbundling and the universal service obligation) largely obviate whatever advantage that may have accrued purely from size or scale. Firms in other industries compete all the time *despite* intrinsic differences in size and

capital or operating costs. As a recent ruling of the DC Circuit Court of Appeals makes amply clear, differences in per-unit costs between the entrant and the incumbent firm are natural when the entrant is just starting out, but that does not necessarily raise an insurmountable barrier to entry when those costs are properly viewed from a *long run* perspective. Although enthusiastically supportive of a form of long run pricing established by the Commission for UNEs, CLECs neglect to take a similar long run perspective of their costs.

E. CLEC Claim 4 (Re: UNE Availability and Facilities Investment)

The CLECs' fourth claim is that competition based on the availability of UNE and UNE-P benefits consumers and leads to investment by CLECs in their own facilities. While the availability of the UNE-P can be a great advantage to CLECs, it is not clear exactly how UNE-P availability either benefits consumers *in the long run* (a point on which the CLECs present no evidence) or is a prerequisite for CLEC investment in their own facilities. It is hard to disagree with the notion that reducing a CLEC's operating cost *artificially*—the only direct effect of having UNE-P available when, in fact, unbundling is not warranted for particular network elements—is a great advantage for that CLEC. Also, if the CLEC flows through that cost reduction into artificially low prices for its services, consumer welfare may be boosted in the short run as well. But, taking the proper long run perspective and focusing properly on aggregate social (not just consumer) welfare, the artificial short run benefit to a CLEC and its customers alike from UNE-P availability simply cannot be justified.

The manner in which UNE-P is priced is actually likely to prove counter-productive in the long run as entry by high-cost and less efficient competitors would (1) oversupply the services being produced by UNE-P and (2) reduce the incentives for both technical and dynamic efficiency. Instead, the only gainers in the long run would be the less-efficient entrants that are the beneficiaries of surplus transfers from the ILEC that is the source of UNE-P. Importantly, the public interest can only be advanced by *competition*, *not* by the protection or advancement of a *competitor* and/or that competitor's interests. UNE-P proponents in this proceeding have not provided any evidence that UNE-P availability reduces

overall prices, stimulates innovation, increases technical and dynamic efficiency, and enhances aggregate social welfare in the long run.

We show in detail in Section III.F of the NERA Reply Declaration that there is no substantive evidence to support the claim that UNE-P “does not deter CLECs from deploying facilities.” In particular, we show why the CLECs’ econometric evidence purporting to show that ILEC or CLEC investment is not affected adversely by either the availability of the switching UNE or UNE prices in general falls short of the standards of analysis required to make those points persuasively.

F. CLEC Claim 5 (Re: Effects of Relaxing Current UNE Policies)

The CLECs’ fifth claim is that competition and investment are affected negatively by the Commission’s current switching carve-out policy and by increases in network element prices (which, upon any grant of unbundling relief, are likely to rise to market levels from their current regulated levels). Two prominent intramodal CLECs (AT&T and Z-Tel) have presented econometric analyses as empirical evidence to back their claim. Z-Tel has submitted two papers that analyze the Commission’s switching carve-out policy. In one paper, Z-Tel concludes from its empirical analysis that there is “substantially *less* competition for residential and small business customers” when that policy applies. In the other paper, Z-Tel purports to show that a policy of continued unbundling does not provide a disincentive for intramodal competitors to deploy their own network facilities. Finally, AT&T claims to have found an inverse relationship between the levels of UNE prices and the investments that ILECs make in their networks. It concludes that lower UNE prices (such as those at current regulated levels) provide an incentive to ILECs to actually invest more.

The empirical analyses submitted by Z-Tel and AT&T are seriously flawed and not credible. Neither provides sufficient basis for its conclusions about how the Commission’s unbundling policies (and consequent UNE prices) supposedly affect ILEC and CLEC investment activity.

There are a number of conceptual and procedural errors in Z-Tel’s studies. These problems arise in measurement, model specification, model testing, and making inferences (i.e.,

drawing conclusions). Some of the measurement and model specification problems are relatively benign, but others not so. The most serious shortcomings in the first Z-Tel analysis are the lack of a proper structural basis for the model used in its empirical analysis, and a flawed definition of the very policy variable (reflecting the switching carve-out) which lies at the heart of its analysis. Z-Tel employs data from only 27 states for testing its proposition about the effects of the switching carve-out policy. However, these include at least one state (Connecticut) which has *no* MSA in the top 50 (where the switching carve-out policy could apply). In addition, these include at least eight “states” (District of Columbia, Kansas, Massachusetts, Minnesota, Missouri, Oregon, South Carolina, and Virginia) which have no top 50 MSAs entirely to themselves, but have to share them with contiguous states. Finally, and most importantly, Z-Tel’s analysis proceeds as if the markets *eligible* for the ULS restriction did, in fact, experience that restriction during the period of interest, i.e., the ILECs in question actually exercised the switching carve-out option in the manner permitted. That, however, was simply not the case. These facts and other flaws mentioned above demonstrate a serious disconnect between the actual scope of the Commission’s switching carve-out policy and the purely academic exercise that the Z-Tel study amounts to at best.

In its other study, Z-Tel uses a purely cross-sectional model (in which all variables are measured at one point in time) for the 48 contiguous states. From this model, Z-Tel attempts to make *causal* inferences, i.e., draw conclusions about adaptive behavior by CLECs as the environment changes. Such causal inferences can, however, only be made if the item of interest (here CLEC switch deployment) is observed *over time* (such as through time series or panel data. All that a Z-Tel type cross-sectional model can determine is how *differences* among market shares of CLECs in different states—but at one given point in time—relate to the varying circumstances of those states. It cannot, without time series or panel data, determine how the switch deployment activity of a given CLEC *changes* as that CLEC attempts to adapt to changing circumstances over time, e.g., as the MSA in which it is operating becomes subject to the switching carve-out policy or some other policy change.

AT&T’s study purports to be an empirical test of two competing theories of the role UNE prices play in determining trends in ILEC investment. The first theory posits that lower-

than-market UNE prices discourage ILEC investment in those assets that must be shared with competitors. The second theory posits an opposite relationship, namely, that low UNE prices induce more CLEC entry and that, in turn, motivates ILECs to ward off the competitive threat by stepping up their own network investment.

Like the Z-Tel studies, the AT&T econometric analysis also suffers from several conceptual and procedural flaws. The two most significant conceptual problems are that (1) no distinction is made between ILEC investment that is made in order to accommodate UNE-based competition, e.g., investment in collocation and operations support systems, and ILEC investment in new plant and equipment that is more likely made in response to competition from CLECs, and (2) no distinction is made between competition from UNE-using CLECs and competition from facilities-based CLECs. Because of the first flaw, AT&T's alleged finding that UNE prices are negatively correlated with ILEC investment could simply be the result of ILECs having to make more entry-accommodating investments when CLEC entry occurs in response to below-market UNE prices. Because of the second flaw, AT&T fails to account for the possibility that the increased CLEC competition that occurs in response to lower UNE prices could be UNE-based competition (because lower UNE prices both stimulate the demand for UNEs and make UNE-based competition relatively more attractive than facilities-based competition). But, only facilities-based competition, not UNE-based competition, could give ILECs reason to make additional non-entry accommodating investments, an implication that is not tested in the AT&T study. That study has procedural deficiencies as well, including the manner in which it measures the ILEC investment variable and, as with Z-Tel, its reliance on a cross-sectional study to make causal inferences about changes in ILEC behavior over time.

G. CLEC Claim 6 (Re: Conduct of Impairment Analysis)

The sixth claim is that impairment analysis must be conducted according to specific guidelines proposed by the proponents of continued unbundling. The *NPRM* requested feedback on the Commission's proposal to introduce greater granularity into any impairment analysis, particularly with respect to geographic, service, customer, and capacity characteristics. With the exception of Z-Tel, the other major CLECs caution against a high

degree of granularity in impairment analyses, claiming that such granularity could jeopardize their access to UNEs. Instead, some of them propose specific bright-line tests for impairment (such as Allegiance's requirement that for impairment to no longer be an issue, four non-ILEC sources of UNE supply must exist, e.g., through non-ILEC self-deployment or wholesale offerings). They also argue against geographic granularity that would restrict the geographic scope of the market for a UNE to anything below the national level. Z-Tel, on the other hand, is willing to entertain greater granularity at the service and customer level.

1. Granularity in Impairment Analysis

a. Geographic granularity

The issue of geographic granularity is central to any impairment analysis. If the geographic scope of the market within which to conduct such an analysis is not properly defined, then the analysis itself is likely to yield spurious results. Applying well-established economic principles and the Merger Guidelines issued by the U.S. Department of Justice, the geographic scope of the market should be defined in relation to demand substitution factors (using supply substitution factors only to decide which firms participate in the relevant market and to analyze the conditions of entry). All things considered, the metropolitan area (such as an MSA) is the most reasonable geographic market for impairment analysis of retail local exchange services. There are 64 MSAs (containing 967 wire centers) in the nine-state BellSouth region, of which 21 MSAs (containing 576 wire centers) are ranked in the national top 100. Importantly, how widely alternative wholesale facilities are available to CLECs in the BellSouth region is inextricably linked to the how widely retail local exchange services are available within these MSAs.

b. Is there CLEC impairment in the mass market?

WorldCom argues that a granular analysis of the sort that produces selective unbundling relief in high density areas (such as the switching carve-out policy) could jeopardize the ability of CLECs to serve mass-market customers. This is clearly a thinly-veiled effort to get the Commission to declare the entire country as the proper geographic market for UNEs. In light

of that effort, the following question should be asked: How could CLECs possibly be impaired in serving mass-market customers when, at present, unbundling relief has been granted only to the switching UNE needed to serve large business customers in the most densely populated zone of a top 50 MSA—that, too, only if an ILEC first makes enhanced extended links (“EELs”) available? WorldCom’s position is hard to reconcile with the fact that CLECs have deployed large numbers of their own switches in the largest 100 MSAs. Table 5 of the NERA Reply Declaration shows that CLECs serve, on average, a very large percentage of wire centers in the largest 100 MSAs with one or more of their own switches. That percentage is even larger in BellSouth-served MSAs that are ranked in the top 100 nationally. Also, on average, the percentages of ILEC-served access lines that are in wire centers served by one or more switches are themselves quite high. Those percentages too are even higher for BellSouth-served MSAs ranked in the top 100 nationally.

Whether or not they succeed, CLECs clearly have the *opportunity* to address very large percentages of access lines in RBOC-served wire centers (especially so in BellSouth-served MSAs ranked in the top 100 nationally). This fact is certainly not lost on the CLECs who, through their own switch deployment decisions (and despite their capital market travails), have attempted to seize that opportunity. As for the argument that CLECs have not addressed the mass market in the top 100 MSAs, it is certainly not for the lack of an opportunity. Table 6 of the NERA Reply Declaration shows that CLECs can, in principle, reach significant percentages of RBOC-served access lines used by *residential* customers; if they do not actually do so, the explanation may lie with their business decisions, not impairment.

c. Other forms of granularity

The other forms of granularity mentioned in the *NPRM* are easier to address. Table 6 also shows that differentiation by customer group (i.e., residential versus business) does not really matter for an impairment analysis. In contrast, as Section III.G of the NERA Reply Declaration explains in detail, there are sound reasons for distinguishing among service characteristics (e.g., wireline vs. wireless) when conducting an impairment analysis. Finally, as for the capacity of ILEC facilities, evidence shows that the demand for unbundled ILEC high

capacity loops above the DS1 level is negligible. This makes it unnecessary for any impairment analysis of ILEC transport facilities to take account of the capacity level of unbundled transport.

2. Empirical Evidence on Impairment

The most important finding of our analysis of CLEC activity in the BellSouth service region is that impairment is very likely a non-issue for *any of the major UNEs* (i.e., local loops, circuit switching, and inter-office transport) in the largest third of BellSouth's MSAs (roughly 20 MSAs ranked in the top 100 nationally). Moreover, the evidence shows that CLECs are likely to face little impairment for the circuit switching UNE in additional (albeit smaller) BellSouth MSAs.

a. Local loops

The *UNE Fact Report* argues persuasively that, in the three years since the last Commission review of unbundling rules, feasible intermodal and intramodal alternatives to ILEC network facilities have become available in many areas. This strengthens the case for significant relief from unbundling of facilities like switching and high-capacity transport facilities and, eventually, of the other network facilities. In the last three years, CLECs have increased considerably the supply of perhaps the most important network element of them all, the local voice grade loop. Taking full advantage of all available modes of competitive entry, and employing a mix of self-supplied and leased loops, CLECs now serve a higher fraction of end-user access lines than ever before. The Commission itself has documented the fact that the number of end-user access lines served by ILECs has declined for three straight years, even as CLECs have made offsetting gains. This trend is reflected in the nine-state BellSouth region as well (see Tables 7 and 8). Additional information from Table 9—on the number of CLECs with ported numbers and the number of CLEC-ported numbers in various MSA segments—shows that the greatest penetration has occurred, as expected, in the largest 21 BellSouth MSAs that are ranked among the top 100 MSAs nationally. Combining information from Tables 7, 8, and 9, it appears that 9.8 percent of the access lines in the 64 BellSouth-served MSAs are served by CLECs presently.

The manner of CLEC entry into local exchange markets in BellSouth's MSAs can be explored alternatively—and more accurately—through measures like the Lorenz Curve and the Gini Coefficient. These measures confirm (see Figures 1 and 2 of the NERA Reply Declaration) that, *even after adjusting for MSA size differences*, CLECs have clearly concentrated their entry disproportionately more on the largest BellSouth MSAs, a trend that is likely to be true as well nationwide. There is clear evidence that, regardless of how many have entered various BellSouth MSAs, CLECs have more aggressively (or successfully) deployed access lines in the very largest MSAs (where the ratio of business to residential customers is likely to be the highest).

b. Circuit switching

Of all the UNEs, CLECs have succeeded most in developing feasible alternatives for ILEC circuit switching facilities. Technological advances in switch manufacturing have made possible digital switches that are more modular, scalable, and flexible than ever before. Without being bound by the legacy network architecture and central office locations of the ILEC networks, CLECs have deployed their switches strategically. Collocation, EELs, and greatly improved hot-cut performance have made it possible for CLECs to gain greater access to ILEC customers. In addition, CLECs have installed data (packet) switches, and wireless switches that provide intermodal alternatives as well. In fact, the data show that unbundling relief provisions like the switching carve-out can now be extended beyond Density Zone One in the top 50 MSAs where ILEC-provided EELs are available. That is because CLECs appear to have deployed voice switches just as aggressively in the BellSouth MSAs that are ranked between 51 and 100 nationally as they have in those ranked in the top 50 nationally. This finding is confirmed by Table 10 and the bottom half of Table 5. In addition, The Lorenz Curve and Gini Coefficient for CLEC voice switches per capita (depicted in Figure 3) further confirm the fact that CLEC competitive activity through switch deployment has become uniformly intense throughout the BellSouth MSAs ranked in the top 100 nationally, and is no longer confined to those ranked in the top 50 nationally. Other supplementary evidence on this point is provided by Table 11.

CLECs have also attempted to reach BellSouth's (or any ILEC's) customers through collocation arrangements. Although collocation does not guarantee success to a CLEC at converting a BellSouth customer to one of its own, it does provide the competitive opportunity guaranteed by the 1996 Act. In addition, the provision of loop-transport combinations like EELs ensure that, *even without collocation*, CLECs have the opportunity to reach BellSouth's customers from their own switches. If anything, therefore, statistics about collocation are likely to understate CLECs' ability to serve BellSouth's customers from their own switches. Tables 12-13 and, in particular, the Lorenz Curve and Gini Coefficient in Figure 4 show that, after adjusting for MSA size differences, CLEC collocations that have occurred in the smaller BellSouth MSAs are not all that disproportionately less than what has occurred in the larger BellSouth MSAs. In other words, CLECs have sought collocation as a strategy for reaching BellSouth's customers almost uniformly throughout the BellSouth region.

c. Transport

The three years between 1998 and 2001 saw significant buildout of CLEC networks and competitive sources of transport facilities in the BellSouth region. These competitive alternatives for ILEC-supplied inter-office transport come in three forms: (1) fiber-based collocation, (2) CLEC-supplied fiber, and (3) wholesale supply of fiber. Just as the *UNE Fact Report* established these facts for the nation as a whole, Tables 14-17 and Figure 5 of the NERA Reply Declaration support the belief that CLECs are not impaired today in their use of inter-office transport facilities within the BellSouth region. From Figure 5 in particular, it is readily apparent that the distribution of fiber-based collocators per capita in the BellSouth region is skewed to a high degree (nearly 75 percent of fiber-based collocators per capita are present in the largest third of all BellSouth MSAs). This implies that the largest MSAs have proved to be more "target rich" for the CLECs, e.g., are more densely populated and offer greater economies of density, and have higher proportions of the most lucrative customers than smaller MSAs.

d. Advanced services

The most controversial aspect of the Commission's unbundling policies concerns the likely effects of those policies on ILEC investment in advanced services and technologies. CLECs believe that the Commission's unbundling policies cannot possibly serve their desired goal unless they are applied equally to *all* ILEC network facilities—not just those from the ILEC's legacy network. In contrast, ILECs believe that there can be no greater disincentive to invest in advanced services and technologies than asking them to bear all the risks of such investment by themselves while requiring them to share the fruits of their investment with competitors through artificially low regulated rates for UNEs.

There are several important differences between mandatory unbundling of ILECs' legacy network facilities and their newly-constructed broadband facilities. First, the 1996 Act and the Commission's implementing policies clearly intended to make elements of the former available to competitors. It is quite another matter to extend those policies now to next-generation network facilities for which no claim of natural monopoly has yet been proven. It is also no small matter to obtain that proof since the ILECs are not dominant in the supply of advanced services and many such facilities have not yet been deployed.

Second, as the successful emergence of intermodal competition (and the primacy of cable or wireless technologies in certain areas or applications) have shown, ILECs do not possess either a first-mover advantage or any specialized knowledge or technological prowess when it comes to advanced services and new technologies. Thus, ILEC broadband or advanced technologies can hardly be regarded as essential facilities or sources of CLEC impairment in the absence of unbundling.

Third, because advanced services are increasingly likely to cannibalize ILECs' traditional services, ILECs have to balance the opportunity cost of failing to introduce new and replacement services against the need to recoup the significant investments already made in more traditional services. This requires carefully fine tuning the sequence in which ILECs introduce their new services, and the timing with which they do so. A mandatory unbundling policy for the newer replacement services and technologies would only upset this balance and

discourage ILEC investment in them. The risk-reward trade-off is likely to be most pronounced for new services developed using next generation technologies, and any regulatory policy that enhances the risk quotient without commensurately increasing the rewards can only be inimical to ILECs' investment incentives.

Fourth, there is simply no urgency to extend mandatory unbundling rules to ILECs' broadband facilities for which robust intermodal competition already exists, a fact that the Commission has itself acknowledged. Based on data it has accumulated in recent years, the Commission has already concluded that (1) cable modems represent the most popular residential broadband service, (2) no competitor has a corner on the market for residential broadband services, and (3) there is no evidence of natural monopoly in the provision of the new advanced services. Having accepted a demonstration of intermodal competition as a prerequisite of unbundling relief for traditional ILEC wireline services, a similar demonstration for advanced services should be reason enough for the Commission to refrain from imposing mandatory unbundling on ILECs' broadband facilities as well.

Finally, unbundling policies must ensure fair compensation to ILECs for the network elements they have to provide to their competitors on demand. That compact is clearly violated when artificially low regulated prices for those elements—particularly when provisioned as UNE-P—fail to secure that fair compensation for ILECs. *A fortiori*, this creates an even stronger disincentive for ILECs when they are obliged to lease to their competitors parts of their next-generation networks that are presently under development. Conversely, intramodal competitors have very little incentive to develop their own matching advanced services and technologies when they are practically assured access to ILECs' advanced networks at bargain-basement prices.

H. CLEC Claim 7 (Re: Alleged Impairment of CMRS Carriers)

A specific group of intermodal competitors, namely, commercial mobile radio service ("CMRS") or wireless service providers claim that they are impaired without the availability of dedicated transport as a UNE from ILECs. These carriers also complain that they have to pay

higher charges to obtain ILEC dedicated transport as a tariffed special access service rather than as a UNE. CMRS carriers allege competitive harm and impairment from having to do so.

Under the standards of impairment adopted by the Commission, CMRS carriers are not, and cannot be, impaired by the provision of ILEC transport as a special access service rather than as a UNE. Inter-office transmission facilities such as dedicated transport may only be provided as UNEs to link switches or wire centers. Base stations in CMRS networks do not qualify as either switches or wire centers, and links between them and mobile switching centers do not qualify as dedicated transport.

Technical or network issues aside, there are strong economic reasons for denying the CMRS carriers' request for unbundled ILEC transport. CMRS carriers cannot claim to be impaired in the face of clear evidence of their success as intermodal competitors. All of the available evidence points to the clear conclusion that several years of strong growth and falling end-user prices have enabled the wireless industry to emerge as a viable intermodal competitor to ILECs and other wireline carriers. Judging by that evidence, the prognosis for continued strength and competitive progress by CMRS carriers remains promising. If, as they claim in this proceeding, CMRS carriers were impaired at the wholesale level without access to ILEC transport at UNE prices, then their remarkable success at the retail level simply could not have been possible. Significantly, having to obtain the requisite transport from ILECs in the form of special access services has done nothing to constrain either the growth and performance of individual CMRS carriers or of competition among those carriers.

The overall health—and improving prospects—of the CMRS segment of the telecommunications industry is best understood by examining data recently released by the trade group that represents CMRS carriers. Tables 18-19 of the NERA Reply Declaration demonstrate that CMRS carriers—in particular, those who have intervened in this proceeding—have performed spectacularly on a number of different indicators. This evidence makes it difficult to believe that CMRS carriers are uniquely impaired by the lack of dedicated transport as a UNE.

I. INTRODUCTION

A. Statement of Qualifications

Dr. William E. Taylor

1. My name is William E. Taylor. I am Senior Vice President of National Economic Research Associates, Inc. (“NERA”), head of its Communications Practice, and head of its Cambridge office located at One Main Street, Cambridge, Massachusetts 02142.
2. I have been an economist for over twenty-five years. I earned a Bachelor of Arts degree from Harvard College in 1968, a Master of Arts degree in Statistics from the University of California at Berkeley in 1970, and a Ph.D. from Berkeley in 1974, specializing in Industrial Organization and Econometrics. For the past twenty-five years, I have taught and published research in the areas of microeconomics, theoretical and applied econometrics, which is the study of statistical methods applied to economic data, and telecommunications policy at academic and research institutions. Specifically, I have taught at the Economics Departments of Cornell University, the Catholic University of Louvain in Belgium, and the Massachusetts Institute of Technology. I have also conducted research at Bell Laboratories and Bell Communications Research, Inc. I have participated in telecommunications regulatory proceedings before several state public service commissions.
3. I have also filed testimony before the Federal Communications Commission and the Canadian Radio-television Telecommunications Commission on matters concerning incentive regulation, price cap regulation, productivity, access charges, local competition, interLATA competition, interconnection and pricing for economic efficiency. Recently, I was chosen by the Mexican Federal Telecommunications Commission and Telefonos de Mexico (“Telmex”) to arbitrate the renewal of the Telmex price cap plan in Mexico.

4. I have also testified on market power and antitrust issues in federal court. In recent work years, I have studied—and testified on—the competitive effects of mergers among major telecommunications firms and of vertical integration and interconnection of telecommunications networks. Finally, I have appeared as a telecommunications commentator on PBS Radio and on The News Hour with Jim Lehrer.

Dr. Aniruddha Banerjee

5. My name is Aniruddha Banerjee. I am a Vice President with the Communications Practice at NERA.
6. I earned a Bachelor of Arts (with Honors) and a Master of Arts degree in Economics from the University of Delhi, India, in 1975 and 1977, respectively. I received a Ph.D. in Agricultural Economics from the Pennsylvania State University in 1985, and served there subsequently as an Assistant Professor of Economics. I have over eight years of experience teaching undergraduate and graduate courses in various fields of economics and econometrics, and have conducted academic research that has led to publications and conference presentations.
7. Since 1988, I have held various positions in the telecommunications industry. Prior to my present position, I have been an economist in the Market Analysis & Forecasting Division at AT&T Communications, Inc., a Member of Technical Staff at Bell Communications Research (n/k/a Telcordia Technologies), and a Research Economist at BellSouth Telecommunications, Inc. In my present capacity, I have filed expert testimony before the Federal Communications Commission on depreciation requirements of incumbent local exchange carriers, BellSouth's entry into interLATA long distance market in Louisiana, and efficient inter-carrier compensation for Internet-bound traffic. I have also testified before state regulatory commissions on cost models for unbundled network element pricing, interconnection arrangements and imputation analysis, universal service, reciprocal compensation for Internet-bound traffic, and demand analysis for intraLATA long distance service.

8. I have published articles on telecommunications and finance in academic and industry journals and presented research findings periodically at industry and academic conferences.

Mr. Charles J. Zarkadas

9. My name is Charles J. Zarkadas. I am a Vice President with the Communications Practice at NERA.
10. I received a B.A. in Economics from the University of Massachusetts and an M.A. in Economics from Boston College. In further graduate studies, I concentrated in econometrics at Boston College and in industrial organization at the University of Connecticut.
11. Prior to joining NERA, I was the Senior Econometrician and then Staff Manager of the Econometrics/Operations Research Analysis group at the Southern New England Telephone Company. At NERA, I have advised clients on rate-of-return and price regulation, interconnection cost and pricing, pricing of access services under competition, and demand and revenue impacts of new telephone rate structures. I have conducted demand studies to support strategic decision-making by major telecommunications companies; analyzed the radio paging industry, and evaluated the investment and marketing programs of telephone companies. I have evaluated damages in antitrust actions and prepared studies for litigation and regulatory proceedings. Finally, I have filed expert testimony before the Federal Communications Commission on appropriate productivity offsets for large and medium size telephone companies and on exchange access reform, and have testified before state regulators on price regulation, infrastructure development, inter-carrier service quality standards, and the fair rate of return on equity.

Dr. Agustin J. Ros

12. My name is Agustin J. Ros. I am a Senior Consultant with the Communications Practice at NERA.

13. I received a B.A. in Economics from Rutgers University and an M.S. and a Ph.D. in Economics from the University of Illinois at Urbana-Champaign.
14. At NERA, I have been an expert witness and submitted expert reports at the state and federal levels on a broad range of issues relating to the telecommunications industry. I have advised U.S. and international clients on price cap regulation, competition policy, interconnection costs, economic principles governing unbundling requirements, and universal service. Overseas, I have helped to arbitrate a price cap dispute between Telmex and the Mexican Commission (COFETEL) and directed a project on total factor productivity and price cap regulation in Peru. I have also developed several interconnection cost models of fixed wireline and fixed wireless networks on behalf of COFETEL. Prior to joining NERA, I was Senior Advisor to the Chairman of the Illinois Commerce Commission and participated in the Federal-State partnership in Telecommunications at the Federal Communications Commission. There, I advised the Common Carrier Bureau on the interconnection provisions of the Telecommunications Act of 1996. At the Illinois Commission, I provided expert advice and policy analysis to the Commission Chairman on the economics and regulation of telecommunications, energy, gas, and water.
15. Recently, I was an Adjunct Instructor at Northeastern University where I taught the Economics of Regulation. I have published a book and articles in several academic and industry journals, and made presentations at various industry and economic forums.

B. Purpose of Reply Declaration

16. In response to the Notice of Proposed Rulemaking (“*NPRM*”) released by the Federal Communications Commission (“FCC” or “Commission”) in CC Docket Nos. 01-338, 96-98, and 98-147 (collectively, “this proceeding”), dated December 20, 2001, several parties submitted Initial Comments and Declarations on April 5, 2002. A significant portion of those submissions dealt with economic and regulatory aspects of the issues identified in the *NPRM*. At BellSouth Corporation’s (“BellSouth’s”) request, we have

prepared this Reply Declaration to respond to the substantive economic and regulatory comments of various parties. Those parties include, but are not limited to, Allegiance Telecom, Inc. (“Allegiance”), AT&T Corporation (“AT&T”), AT&T Wireless Services, Inc. (“AT&T Wireless”), Nextel Communications, Inc. (“Nextel”), VoiceStream Wireless Corporation (“VoiceStream”), WorldCom, Inc. (“WorldCom”), and Z-Tel Communications, Inc. (“Z-Tel”).

17. Our Reply Declaration has two objectives. First, we assess the economic and regulatory principles, arguments, and empirical evidence submitted by other parties. In so doing, we offer alternative perspectives, counter-arguments, and in some cases, corrections or refutations on several of the issues raised by the *NPRM*. Second, in keeping with the comprehensive empirical support provided by the UNE Fact Report of 2002 (“*UNE Fact Report*”), submitted on behalf of BellSouth, SBC Communications, Inc. (“SBC”), Qwest Corporation (“Qwest”), and Verizon Telephone Companies (“Verizon”) in this proceeding, we provide empirical evidence documenting the progress of unbundling and local competition in BellSouth’s nine-state service territory.
18. This evidence is intended to demonstrate that sufficient progress has been made in the last three years to warrant a substantial relaxation of the Commission’s unbundling rules for network elements that currently apply to incumbent local exchange carriers (“ILECs”) like BellSouth, SBC, Qwest, and Verizon. Three years have elapsed since the Commission last visited and revised unbundling rules for ILECs.¹ Significant developments have occurred in the telecommunications industry since then, both in terms of technological progress and the advancement of local exchange and wireless competition. These developments have altered many of the “facts on the ground” that had led the Commission, in the aftermath of the Telecommunications Act of 1996 (“1996 Act”), to formulate various regulatory rules—including those pertaining to unbundled network elements (“UNEs”)—that it believed would facilitate vigorous

local exchange competition. As a result of the progress made in the last three years, we believe that many of the unbundling rules adopted earlier may no longer apply or may need to be relaxed appropriately.

19. This Reply Declaration is structured as follows. Section II summarizes the economic and regulatory positions of the proponents of continued unbundling of ILEC network elements. These positions, which have been gleaned from the Initial Comments and Declarations of those proponents, attempt to preserve the status quo for unbundling rules and, in effect, deny that the terms of engagement among telecommunications carriers have changed substantially over the past three years. Some, e.g., commercial mobile radio service (“CMRS”) carriers, even ask to expand the unbundling rules in ways that are calculated to produce unwarranted advantages that are presently denied them. Section III responds to or refutes these claims using, where possible, empirical evidence at a more general level (such as from the *UNE Fact Report*) or more specifically about the BellSouth region.

¹ FCC, *In the Matter of Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98, Third Report and Order and Fourth Further Notice of Proposed Rulemaking (“*UNE Remand Order*”), November 5, 1999.

II. ECONOMIC AND REGULATORY CLAIMS OF PROPONENTS OF CONTINUED UNBUNDLING: A SUMMARY

20. Although over 60 parties have filed comments in this proceeding, our Reply Declaration is selective about the issues, i.e., we do not respond exhaustively to every economic or regulatory position of unbundling proponents. The principal issues—to which we do respond—are summarized below. For the most part, these are the positions of competitive local exchange carriers (“CLECs”)—some of which are also inter-exchange carriers (“IXCs”)—and CMRS carriers. As such, we note, the economic interests of those carriers—and the positions they have taken in this proceeding based on them—reflect more closely the state that *competitors* wish to be in, not necessarily the state that actual market *competition* is in.
21. To summarize, the following are the economic/regulatory positions of the CLECs and CMRS carriers participating in this proceeding:
 - A. Intermodal competition, i.e., competition among wireline, cable, wireless, and other carriers, has not constrained ILEC market power and will not do so in the foreseeable future; the only hope is UNE-based intramodal competition, i.e., competition among wireline carriers themselves.
 - B. CLECs cannot serve mass-market customers, i.e., customers with fewer than four access lines, without the continuing availability of UNEs.
 - C. Cost differentials between ILECs and CLECs constitute a barrier to entry for new competitors.
 - D. Competition based on the availability of UNE platforms (“UNE-P”) benefits consumers and leads to investment by CLECs in their own facilities.
 - E. Competition and investment are negatively affected by the current switching carve-out policy and by increases in network element prices.
 - F. Impairment analysis must be conducted according to specific guidelines proposed by the proponents of continued unbundling.
 - G. CMRS providers are impaired without the availability of dedicated transport as a UNE.

III. RESPONSE TO THE ECONOMIC CLAIMS OF PROPONENTS OF CONTINUED UNBUNDLING

A. Claim: “Intermodal competition has not constrained ILEC market power and will not do so in the foreseeable future; the only hope is UNE-based intramodal competition.”

1. Introduction

22. The Commission seeks comment on whether it should consider “intermodal” providers, i.e., carriers providing service over alternative technological platforms such as wireline, wireless, and cable, as competitive alternatives to ILECs.² Although not specifically directed by the 1996 Act to take account of technology alternatives when creating unbundling rules, the Commission had found in its *UNE Remand Order* that viable competition had yet to emerge from wireless and cable service providers.³ However, in view of the progress made in the last three years, the Commission believes that the time may be ripe to revisit the issue.

2. Position of unbundling proponents

23. Some CLECs continue to express pessimism or skepticism about the ability of intermodal service providers to provide effective competition to ILECs. WorldCom, prominently among those CLECs, doubts that the six years since the 1996 Act have seen enough local competition develop to warrant a more optimistic outlook. In particular, WorldCom regards economies of scale in ILECs’ loop plant and allegedly prohibitive costs of securing building access and rights-of-way as persistent barriers to entry that can be overcome only by a continued policy of mandatory unbundling of ILEC networks.⁴ According to WorldCom, the practical reality is as follows:

² *NPRM*, ¶28.

³ *UNE Remand Order*, ¶188.

⁴ *Comments of WorldCom, Inc.*(“*WorldCom Comments*”), at 4.

Even carriers with extensive networks depend on incumbent LEC facilities for last mile facilities, and thus cannot constrain the ILECs' exercise of market power. For the vast majority of mass market voice customers, the choice is either the incumbent LEC or a competitive LEC that relies on UNEs.⁵

24. Significantly, WorldCom continues to view the current state of local competition through the lens of market power (although it offers little beyond conjecture about its exercise by ILECs). To offset that alleged market power, WorldCom proposes that "intramodal" competition, i.e., competition among alternative service providers using the same or similar technological platforms, "if pursued rigorously and vigorously, will result in increased investment as well as meaningful developments in competition, although not overnight."⁶ To foster such competition, WorldCom believes, the Commission must continue to require unbundling and "nondiscriminatory access at TELRIC prices to UNEs and UNE combinations, including EELs, UNE-P, and all loop types."⁷ Without that kind of help from the Commission, WorldCom contends that the high exit rate and bankruptcies of CLECs in recent difficult economic times will only be exacerbated.

3. Reply

25. Blanket assertions, such as those made by WorldCom and like-minded CLECs, are not helpful for resolving the Commission's question about the advent of intermodal competition and its significance for ILEC unbundling rules. Those assertions are offered only to justify securing a more or less permanent policy status for current unbundling rules, no matter the progress that *both* intramodal and intermodal competition have made in the past three years.
26. CLECs like WorldCom would deny even incremental policy changes by refusing to recognize that such progress has also occurred on another front, namely, the

⁵ *Id.*, at 5.

⁶ *Id.*

⁷ *Id.*, at 6. TELRIC and EEL are acronyms for total element long run incremental cost and enhanced extended link, respectively.

availability of feasible alternatives to the network elements themselves. Clearly, intramodal competition can be enhanced not merely by continuing a punitive regime of mandatory and pervasive unbundling, but also by the development of competitive alternatives at the wholesale facilities level itself. Ironically, the continued emphasis on unbundling alone discourages both CLEC and ILEC investment, and is unlikely to encourage the emergence of the very alternative facilities whose availability would render continued unbundling unnecessary. Thus, CLECs—particularly those comfortably locked into a strategy of using UNE-Ps obtained from ILECs—have no particular incentive to do anything that would invite a change in current unbundling policies, a veritable catch-22.

a. Current composition of the industry

27. The 1996 Act clearly foresaw and sought to encourage both intermodal and intramodal competition. Section 251 of the 1996 Act recognizes that true competition can only occur when technological boundaries are stretched or even surpassed. To that end, it offers two distinct market entry alternatives to competitors who do not possess their own network facilities: (1) resale of ILEC services and (2) unbundled access to ILEC facilities that competitors can, at their option, combine with their own facilities. It is commonly believed that these two entry modes are intended to lower entry barriers (by removing or lowering many of the sunk costs associated with telecommunications networks), hasten the advent of local competition, and facilitate a transition ultimately to the desirable state of competition among multiple facilities-based networks. The conventional wisdom is that facilities-based competition is best capable of delivering service variety and innovation to consumers and, therefore, of maximizing social welfare.
28. Total service resale of an ILEC's services may be the least risky form of entry because it does not oblige the entrant to incur significant sunk costs. However, resale also offers little opportunity for the entrant to differentiate its service offerings from those of the ILEC. UNEs offer CLECs more of an opportunity to pursue innovative services

and sales strategies, particularly when the CLECs can combine their own network assets with leased UNEs. A CLEC that can rely entirely on its own facilities has the greatest flexibility but also bears the greatest risks because of its commitment to sunk assets. In some instances, CLECs may pursue a fourth option: a modified version of UNE-based entry. Under this option, the entrant leases the entire platform of UNEs, i.e., individual UNEs like loops and switching that have already been combined. The UNE-P mode of entry has been popularized by large IXC-turned-CLECs like AT&T and WorldCom. Ironically, UNE-P based operations bear close resemblance to total service resale, except that the entrant has complete access to the underlying wholesale elements involved.⁸ The *UNE Fact Report* provides details about the various modes by which CLEC entry has occurred.⁹

b. Facilities-based and UNE-based CLECs

29. Several hundred CLECs have formed in the six years since the 1996 Act, and they differ widely in size, mode of entry, and other operational characteristics. As in competitive markets everywhere, several of those CLECs have not survived the competition that inspired their creation in the first place. At the same time, a smaller core group of CLECs have endured, weathering both the daunting prospect of competing with incumbent carriers and the often fatal drag of recession and capital market slumps. Today, CLECs fall roughly into two camps: those that are primarily facilities-based and those that depend primarily on UNEs and UNE-Ps. Competition from CLECs that rely primarily on total service resale is far less common and of little financial or competitive significance.
30. Well-known members of the first, i.e., primarily facilities-based, camp include McLeodUSA, Allegiance, Cox Communications, Time Warner Telecom, and XO

⁸ In addition, there are price and revenue differences: (1) UNE-P is priced based on TELRIC while resold services are priced at an avoided-cost discount from the ILEC's retail price, and (2) a CLEC that uses UNE-P receives carrier access charges for originating and terminating long distance traffic, while a CLEC that uses resale cannot collect such charges.

⁹ *UNE Fact Report*, Section I, especially Figure 1.

Communications. The prominent members of the second, i.e., primarily UNE or UNE-P based, camp include IXC-turned-CLECs like AT&T and WorldCom. The starkly different routes to competition chosen by these two camps invites closer examination.

31. The primarily facilities-based CLECs in the first camp appear to have proceeded with the philosophy that only facilities-based competition can deliver the benefits to society envisioned by the 1996 Act. Only a year ago, Kevin Joseph, the Vice President of Government Affairs at Allegiance, called for a shift toward facilities-based policies at the Commission, stating: “The Unbundled Network Element-Platform was a creation of the FCC...but I think that discouraged investment in other areas because there was an arbitrage opportunity for CLECs to go out and make a quick buck.”¹⁰
32. In a similar vein, James O. Robbins, CEO of Cox Communications, Inc., testified before a Senate Judiciary Subcommittee as follows:

Cox ... has faced problems on the regulatory front. In particular, Cox has had difficulty persuading regulators of the importance of promoting facilities-based competition over the less viable resale and UNE competitive entry strategies envisioned by the 1996 Act. The stark reality is that it is difficult to implement a business model that relies heavily on purchasing essential inputs from your fiercest competitor, who also happens to be a long-standing monopolist. A far more reliable approach is to make capital investments in your own infrastructure and decrease reliance on the ILECs as much as possible.

Moreover, as the [Commission] has recognized, facilities-based competition creates more consumer benefits than any other form of competition. Facilities-based providers can compete more effectively with incumbents, provide more reliable service and, because they control the entire transmission path, can offer more innovative and advanced services than non-facilities-based providers. Unfortunately, regulatory initiatives aimed at encouraging the deployment of new telecommunications infrastructure often take a back seat to activities aimed at promoting resale and the lease of UNEs—despite the fact that it is far less

¹⁰ *The Progress and Freedom Foundation*, “Facilities-Based Competition is Best” (news release), April 12, 2001. Also available at http://www.pff.org/Press%20Releases/pr041201_SeminarTrans.htm.

time-consuming to promote facilities-based competition than it is to sort through the myriad complexities of implementing OSS and UNE-P.¹¹

33. CLECs that have a particular stake in deploying broadband and advanced services networks have pushed particularly hard for facilities-based competition. Brian L. Roberts, the President of Comcast Corporation (a facilities-based competitor using cable-based technologies) has called for public policy that encourages investment in facilities-based competition.¹²
34. The Association for Local Telecommunications Services (“ALTS”), the main association of facilities-based CLECs and intermodal competitors, is itself on record as strongly endorsing facilities-based competition as an efficient means of encouraging broadband deployment.¹³ Although intermodal competitors tend to favor the facilities-based competition route, the more traditional wireline carriers, particularly the IXC-turned-CLECs, have lobbied hard for access to UNE-Ps. Representing CLECs that do not rely primarily on their own facilities, the Competitive Telecommunications Association (“CompTel”)¹⁴ has urged the Commission to reject strategies that focus only on the promotion of facilities-based competition (especially with intermodal competitors).¹⁵ The measure of the success of that campaign can be found in the manner in which AT&T and WorldCom have used UNE-P almost exclusively to offer

¹¹ Written Testimony of James O. Robbins before the Senate Judiciary Subcommittee on Antitrust, Business Rights and Competition, Hearing on the Status of Competition in the Telephone Local Exchange Market, May 2, 2001.

¹² *Comcast Corporation*, “Comcast President Brian L. Roberts Addresses National Association of Regulatory Utility Commissioners” (press release), November 12, 2001. Also available at http://www.comcast.com/press_room/viewrelease.asp?pressid=105.

¹³ ALTS, “ALTS Stresses Importance of Promoting Facilities-Based Competition to Spur Broadband Deployment” (news release), December 20, 2001. Also see *ALTS Response to NTIA Request for Comment on Deployment of Broadband Networks and Advanced Telecommunications Services*, NTIA Broadband Deployment Advisory, December 19, 2001. Also available at <http://www.ntia.gov/ntiahome/broadband/comments3/ALTS.htm>.

¹⁴ CompTel’s web site provides a “partial” list of 106 members, while the ALTS web site lists 53 “network” members and 60 “affiliate” members. Based on data available from BizSpace, Inc., a provider of CLEC-related information, the two associations have only four members in common.

¹⁵ Wayne Kawamoto, “CompTel Urges NYPSC to Promote Competition,” October 23, 2001. Also available at <http://www.clec-planet.com/news/000110/oct23comptel.htm>.

local exchange services in the handful of states that they currently serve.¹⁶ It is safe to speculate that the broadest support for the UNE and UNE-P strategy for competitive entry has come from intramodal competitors.

35. Against this backdrop of differing orientations among intermodal and intramodal competitors, federal regulators have increasingly voiced their preference for facilities-based competition. Dorothy Atwood, Chief of the FCC's Wireline Competition (formerly Common Carrier) Bureau, pointed out a year ago that "the Commission has been clearer and clearer in each of its subsequent orders that we definitely view the UNE platform as an interim vehicle for facilities competition."¹⁷ Echoing that sentiment and addressing ALTS, FCC Chairman Michael Powell stated:

In this effort, I am guided by a strong belief in facilities-based competition. I have consistently expressed my view that facilities providers, like you, are the key to robust competition. Facilities-based competitors offer the promise of more substantial and enduring investment in local markets. They are less dependent on incumbent carriers; which means less regulatory morass, fewer ways for the incumbent to frustrate competitive entry, and greater product and cost differentiation. Finally, it means something very important as we awake to the realities of our vulnerabilities as a nation—a redundant national network infrastructure. In short, real meaningful choice for consumers.

You should understand that when I speak of facilities-based providers we mean YOU, not just full facilities providers like cable companies. I recognize that access to the loop, critical network elements, and collocations remain important. Moreover, resale and other modes of entry are provided for by the statute and can serve as important interim steps in entering a market.¹⁸

That message is not new. Testifying two years ago before a House Commerce Subcommittee, Thomas J. Sugrue, Chief of the FCC's Bureau of Wireless Competition, stated:

¹⁶ See, e.g., a 2002 WorldCom public policy paper, "Market Entry Strategies," available at http://www1.worldcom.com/us/about/publicpolicy/industry/fact_sheets/market_entry.xml.

¹⁷ *The Progress and Freedom Foundation*, "Facilities-Based Competition is Best" (news release), April 12, 2001, *supra*, fn. 10.

¹⁸ Prepared Remarks of Michael K. Powell, FCC Chairman, at ALTS convention, Crystal City, Virginia, November 30, 2001. Also available at <http://www.fcc.gov/Speeches/Powell/2001/spmcp111.html>.

Only facilities-based competitors can avoid reliance on bottleneck local network facilities. Only facilities-based competition can fully unleash competing providers' abilities and incentives to pursue publicly beneficial innovation. Facilities-based competition is important not only for the efficient and ubiquitous provision of basic telecommunications services, but also for the availability of advanced and innovative services.¹⁹

36. Recently, the National Academy of Sciences ("NAS") weighed in on behalf of facilities-based competition, particularly if broadband deployment is to be encouraged. A report submitted by the National Research Council, the working arm of the NAS, stated that "in the long term and in the case of investment in new facilities, policies should favor facilities-based competition over mandatory unbundling," because the former, among other things, minimizes the need for regulation, promotes technological diversity and, most importantly, removes disincentives of both ILECs and CLECs to invest in their respective infrastructures.²⁰
37. Thus, whatever the prevailing policy orientations on local competition among regulators and independent think tanks, it would appear that a *de facto* division exists between intermodal and intramodal competitors regarding the preferable mode of competition. It is understandable that intermodal competitors would prefer full-fledged facilities-based competition because, by dint of the alternative technologies they have adopted, those competitors have less of a need to use elements from ILEC networks. On the other hand, intramodal competitors like WorldCom may well be expected to press hard for UNE and UNE-P access for as long as possible. This is clearly the source of the claim of unbundling proponents being examined in this section (e.g., both AT&T and WorldCom), namely, that only intramodal competition can be relied upon to check the market power that ILECs allegedly possess and deliver to consumers the benefits of competition envisioned by the 1996 Act.

¹⁹ Statement of Thomas J. Sugrue before the Subcommittee on Telecommunications, Trade, and Consumer Protection, Committee on Commerce, United States House of Representatives, May 13, 1999.

²⁰ Adam Thierer, "The Tauzin-Dingell Bill and the National Academy of Sciences Broadband Study: Calls for Broadband Freedom," a CATO Institute Techknowledge article, December 14, 2001. Also available at <http://www.cato.org/tech/tk/011214-tk.html>.

c. Recent history

38. Two sub-texts emerging from the overall theme that intermodal competition has failed thus far and shows no prospects of doing better any time soon are as follows:

- The best that the success of cable-based competitors can produce is a duopoly; competition from CMRS (wireless) carriers is inconsequential presently.²¹
- The prospects for effective intramodal competition have already been weakened by recent CLEC bankruptcies and failures, and reducing the unbundling obligations of ILECs would further damage such competition.²²

39. Section III.G demonstrates the fact that wireless competition, one of the more enduring success stories in telecommunications, has already made significant strides in the U.S. Analysts and regulators alike now talk openly about CMRS carriers posing a real competitive threat to intramodal wireline competitors, especially with wireless technology capable of providing the “last mile” connection. The *UNE Fact Report* provides evidence on this point as well.²³ For example, according to that source, CLECs have made capital expenditures of \$50 billion in the last three years, the cable industry’s investment in broadband services has exceeded \$55 billion since the 1996 Act was passed, and cumulative capital investment by CMRS carriers grew more than four-fold to \$100 billion as of June 2001. Therefore, to suppose that the success of cable-based competitors can at best produce a duopoly with incumbent wireline carriers is to miss the obvious “third way” represented by the CMRS segment of the telecommunications industry. The assertion that the outcome of intermodal competition could, at best, be a duopoly is thus not only factually incorrect but also fails to ask the more important question, namely, whether such an outcome could

²¹ *WorldCom Comments*, at 34-38, and *Comments of Association of Local telecommunications Services, Cbeyond Communications, LLC, DSL Net Communications, LLC, El Paso Networks, LLC, Focal Communications Corporation, New Edge Network, Inc., PaeTec Communications, Inc., Pac-West Telecomm, Inc., RCN Telecom Service, Inc., and US LEC Corp.* (“*ALTS et al. Comments*”), at 39-40. A similar opinion is expressed in a letter dated May 20, 2002 from Vinton G. Cerf (Senior Vice President, WorldCom) to U.S. Commerce Secretary Donald Evans and FCC Chairman Michael Powell (“*Cerf Letter*”).

²² *WorldCom Comments*, at 21-23, and *Comments of Competitive Telecommunications Association* (“*CompTel Comments*”), at 65-71. Also, see *Cerf Letter*.

²³ *UNE Fact Report*, Section I, especially Tables 1 and 3.

possibly foreclose competition. The answer is clearly that it could not. First, the regulatory rules will simply not allow ILECs to prevent new entry. In fact, that is precisely what the Commission has set out to ensure. Second, the market has already demonstrated that entry deterrence will not work, whether in theory or practice. Now that three different modes of competition have been established successfully, there is nothing to preclude entry by multiple firms operating in each mode. Thus, far from having a duopoly, there is more likely to be competition among several firms. As long as there are no legal barriers to entry and ILECs cannot deploy entry-detering strategies of their own, the actual number of firms in the market will, in the long run, be determined by market conditions (such as fixed costs, profit margins, relative efficiencies, regulatory uncertainties and other risks, etc.).

40. The more serious concern is with the future of intramodal competition itself, especially in light of several negative industry and capital market experiences of CLECs in recent years. Those experiences are examined below.

d. CLEC experience in recent years

41. The vicissitudes of the CLEC community notwithstanding, there are many reasons to believe that the 1996 Act's vision of vigorous local competition is gradually coming to pass. Even if the recent recession and other economy-affecting events had never happened, it would have been too much to expect that the initial CLEC "gold rush" which saw a large number of new entrants in local exchange markets would not dissipate at some point. That gold rush was made possible mainly by the 1996 Act's vision (eventually implemented by the Commission and state regulators) that entry into the local exchange—for long believed to be a natural monopoly because of substantial economies of scale—would be fostered by the lowering of entry barriers (primarily in the form of large capital and sunk costs). Hence, offering alternative modes of entry that provided access to existing ILEC networks meant that not all new competitors had to build their own facilities, at least not initially.

42. The CLECs that entered local exchange markets throughout the country were, however, a diverse group. Many chose alternative technology platforms that the ILECs had never used. More importantly, CLECs adopted many different business models. In times of stress, such as when competition picks up, profit margins are thinned, and external capital market pressures build, some of these business models hold up and others do not. So it was that, over the years, some CLECs did not survive when changes in regulation or financial market conditions proved incongruous with their business models and operating philosophies.²⁴ Still others could not withstand the rough and tumble of competition and had to exit. This, however, was all part of the normal process of Darwinian winnowing that typically occurs in markets in which firms at different levels of efficiency and customer acceptance try to compete.
43. According to the *UNE Fact Report*, CLECs now serve between 16 and 23 million local access lines nationwide (of which at least 3 million are residential or mass market customer lines) out of their own facilities and over 9 million more through resale and UNE-P, employ approximately 1,300 known switches, and are able to serve local customers in wire centers that account for approximately 86 percent of the access lines served by the Regional Bell Operating Companies (“RBOCs”).²⁵
44. Significantly, despite the economic difficulties that have befallen some CLECs, the number of access lines served by CLECs *as a group* has continued to grow impressively. The Commission’s own sources estimated recently that, by the end of June 2001, CLECs served 17.3 million access lines nationwide, accounting for 9 percent of all lines.²⁶ This meant that the CLEC community had grown 16 percent during the first six months of 2001. Those sources also estimated that CLEC share of mass market (residential and small business) lines served had grown to 5.5 percent by

²⁴ For example, in the aftermath of the 1996 Act, some CLECs were formed to take advantage of the early policy uncertainties surrounding the payment of reciprocal compensation for Internet-directed traffic that crossed network boundaries. Changes in Commission policy on inter-carrier compensation, especially those in April 2001, left those CLECs unable to finance their activities through regulatory arbitrage, and they did not survive.

²⁵ *UNE Fact Report*, Section I.

²⁶ FCC, *Local Telephone Competition: Status as of June 30, 2001* (“*Local Competition Report*”), Industry Analysis Division, February 2002, Table 1.

end-June 2001, up from 3.2 percent a year earlier. By end-June 2001, 60 percent of the nation's zip codes (with 90 percent of the nation's households) received local exchange service from at least one CLEC.²⁷ CLECs also earned \$10.7 billion in local service revenues in 2000, up 70 percent from a year earlier.²⁸ CLEC share of local service revenues climbed from 5.8 percent to 8.9 percent over this period.²⁹

45. Finally, according to John Windhausen Jr., President of ALTS, "the fundamentals of [the CLEC] industry remain pretty strong."³⁰ In 2001, CLECs' total revenue was approximately \$53 billion (up from approximately \$42 billion in 2000), switched local access revenue was \$9.5 billion (up from \$7.9 billion in 2000), data revenue was \$24.9 billion (up from \$19.2 billion in 2000), and dedicated access revenue was \$10.1 billion (up from \$8.4 billion in 2000). Also, in 2001, CLECs served 19.5 million access lines (up from 16.5 million in 2000), had 1,224 installed switches (up from 994 in 2000), and covered 339,501 network route miles (up from 276,731 in 2000). CLEC market share of access lines stood at 9.9 percent in 2001 (up from 8.5 percent in 2000), while their market share of local revenues was 10.7 percent (up from 9 percent in 2001). CLECs also invested \$12.3 billion in advanced networks in 2001, which took such investment past \$65 billion since the passage of the 1996 Act. Mr. Windhausen notes that the access line and revenue share growth performances were "pretty impressive" despite the fact that "the capital markets were so unfavorable to [CLECs]" between 2000 and 2001.³¹ On CLEC capital expenditures, Mr. Windhausen notes: "That's more money spent in new networks than the cable companies ... and very close to the amount the Bell companies have spent over those six years." Mr. Windhausen offers this assessment of CLEC performance so far: "The main message that we have to

²⁷ *Id.*, Table 11.

²⁸ *Id.*, Table 14.

²⁹ *Id.*

³⁰ *Telecommunications Reports*, "CLECs Lobby to Preserve Revenue, Access-Line Gains," April 22, 2002.

³¹ *Id.*

share today is that we are on the right path. *The economics tells us that. The industry dynamics tells us that.*”³²

46. Within the nine-state BellSouth region, CLEC growth has been steady and impressive. Table 1 shows that, with the exception of two metropolitan statistical areas (“MSAs”), all MSAs in the BellSouth region that rank in the top 150 MSAs nationally saw increases between 1998 and 2001 in both the number of CLECs operating and the number of operational networks. Table 2 shows the number of primarily facilities-based CLECs in each of the nine states of the BellSouth region.

³² *Id.* Emphasis added.

Table 1. CLECs and CLEC Networks in BellSouth MSAs Ranked in Top 150, 1998 and 2001³³

MSA	1998		2001	
	CLECs	Operational Networks	CLECs	Operational Networks
Atlanta	21	35	31	45
Tampa-St. Petersburg-Clearwater	12	12	19	23
Miami	13	13	22	23
Orlando	11	11	17	23
Fort Lauderdale	10	10	16	19
Charlotte-Gastonia-Rock Hill	8	8	15	16
New Orleans	9	9	11	12
Greensboro-Winston-Salem-High Point	7	11	16	28
Nashville	8	8	14	18
Raleigh-Durham-Chapel Hill	7	10	15	29
Memphis	7	7	16	16
Jacksonville	9	8	12	15
West Palm Beach	4	4	7	11
Louisville	4	4	9	9
Greenville-Spartanburg-Anderson	4	5	10	13
Birmingham	6	5	11	13
Knoxville	7	6	10	9
Baton Rouge	9	8	8	6
Charleston-North Charleston	3	3	11	14
Mobile	4	3	8	7
Columbia	4	4	12	10
Melbourne-Titusville-Palm Bay	0	0	3	4
Daytona Beach	2	2	7	6
Johnson City-Kingsport-Bristol	3	2	1	1
Lexington	2	2	7	7
Augusta-Aiken	5	4	7	6
Chattanooga	4	3	10	9
Jackson	6	5	9	9
Pensacola	2	2	7	7
Shreveport-Bossier	4	4	8	8
Lafayette	2	2	5	6
Biloxi-Gulfport-Pascagoula	2	3	4	4
Huntsville	4	4	7	9

³³ Source: *UNE Fact Report*, Appendix K.

Table 2. Number of CLECs in BellSouth Region, By State³⁴

State	Number of CLECs
Alabama	52
Florida	104
Georgia	70
Kentucky	44
Louisiana	52
Mississippi	38
North Carolina	65
South Carolina	56
Tennessee	59

³⁴ Source: BizSpace, Inc. There are several multi-state CLECs in the BellSouth Region, and each is counted once in Table 2 for every state in which it operates. Because of this, the nine-state sum of CLECs in Table 2 would far exceed the actual total number of distinct CLECs operating in the BellSouth Region.

47. The picture of the CLECs that emerges from all of this contradicts the more pessimistic portrayal by WorldCom and CompTel. While many CLECs have indeed declared bankruptcy or left the industry, a core group of CLECs have not only survived but have actually grown in the face of a severe slowdown in the telecommunications industry. Recent 10-K filings and press releases of some of the prominent CLECs like Time Warner Telecom, McLeodUSA, Allegiance, and XO Communications show significant customer and revenue growth through 2001, many of them operating with growing positive free cash flow and others with narrowing negative free cash flow.³⁵ Even CLECs that have sought bankruptcy protection and restructured their operations (e.g., Covad Communications) hold out the promise of a healthier future.³⁶
48. Many financial experts believe that, in the final analysis, the recent economic slowdown will actually benefit local competition by weeding out the poorly performing CLECs or the CLECs with dubious business models. What is being witnessed currently is structural transformation from “no-holds-barred” entry to entry and participation based on proven performance ability and, in many instances, the use of self-deployed facilities. On April 18, 2002, representatives of Legg Mason, Schwab Capital Markets, and MCG Capital told a subcommittee of the House Financial Services Committee that the “shakeout” in the telecommunications sector would—and should be allowed to—continue, and the capital markets would react favorably to the CLECs that emerge with sound business plans in the process.³⁷

³⁵ Also see similar evidence of this, for a slightly earlier time, in Robert W. Crandall, “An Assessment of the Competitive Local Exchange Carriers: Five Years After the Passage of the Telecommunications Act,” a Criterion Economics, LLC Report, June 2001.

³⁶ A Chapter 11 bankruptcy filing is not necessarily the end of the line for ailing firms. When the recent capital market slump affected the cash flow and financing resources of several CLECs, the bankruptcy filing became an instrument of self-preservation. A Chapter 11 filing allows a bankrupt firm to reorganize and restructure itself, primarily by transferring ownership from shareholders to bondholders, lowering the book value of its debt and the interest payments on it, and paying the debt off prior to emerging as a healthier firm. This restructuring comes at some short term cost, both in money and management priorities, but the bankrupt firm has at least a reasonable chance of surviving in the longer term.

³⁷ *Telco Business Report*, “Govt. Should Let Telecom Market Work Itself Out, Experts Say,” April 22, 2002.

e. Capital markets

49. The CLECs have made much of their market capitalization losses over the past two years. It is true that, compared to the dizzying heights achieved in 1999, CLECs today do not enjoy the same market capitalization or stock price positions. However, that fate is not unique to CLECs, as ILECs too have witnessed declines on those two financial market barometers (see Table 3). While market capitalization of telecommunications carriers is not today what it once was, that does not also mean that the CLECs are hopelessly constrained from obtaining credit and other financial resources. The significant capital expenditures of the CLECs in 2001 alone testify to that point. Although some individual CLECs' ability to service their capital needs has dried up, the CLECs *as a group* have, despite lower market capitalizations, managed quite well to go forward with their plans for network expansion, competition, and growth. Many of the vanguards of this performance have done so by installing their own facilities and without relying extensively on unbundled access to ILEC networks. Therefore, the lower (and much more realistic) market capitalizations³⁸ that have been observed recently cannot be regarded as sufficient rationale for continued and unfettered unbundled access to ILEC networks, as some CLECs now insist.

³⁸ See the study by Robert W. Crandall, *supra* fn. 35, at 14-18 for a discussion of how excessive—and unjustified by actual performance—the market capitalizations of CLECs once were.

Table 3. CLEC and ILEC Market Capitalization as of Certain Dates³⁹

CLEC	Market Capitalization (\$ million) as of		
	Dec 31, 1999	May 1, 2001	May 6, 2002
Adelphia Communications	6,450	600	1,260
Allegiance Telecom	6,970	2,040	159
Covad Communications	6,640	170	388
Electric Lightwave	950	140	20
Focal Communications	1,480	400	29
Inter-Tel	790	240	493
ITC DeltaCom	1,700	340	11
McLeodUSA	1,900	5,370	113
Net2Phone	n/a	470	313
Pac West	n/a	110	25
RCN Corp.	3,970	380	175
Time Warner TLC	5,280	5,790	316
US LEC Corp.	890	150	79
XO Communications (Nextlink)	15,190	1,460	29
Z-Tel Communications	1,360	150	47
ILEC	Market Capitalization (\$ billion) as of		
	May 2001	May 2002	
ALLTEL	18	15	
BellSouth	76	57	
Broadwing (Cincinnati Bell)	6	1	
Qwest (U S WEST)	63	9	
SBC	142	107	
Sprint	18	14	
Verizon	149	110	

³⁹ Source: Robert W. Crandall, *supra* fn. 35 and *Yahoo Finance*.

50. The shakeout in the CLEC community in the last two years has yielded some interesting insights about the prospects for future competition. First, the capital markets have been kinder to facilities-based CLECs than to CLECs that operate on other business models. Most facilities-based CLECs (including those who rely on a mix of UNEs and their own facilities) tend to be intermodal competitors with a broader base of operations (e.g., Cox Communications with its cable assets, AT&T with its cable and long distance networks, etc.). By being able to offer comprehensive packages of communication services (not just local telephony) at attractive prices, these CLECs offer the best vindication of the 1996 Act's vision that only facilities-based competition can prove to be durable and beneficial to customers. It is no accident that the overwhelming majority of now defunct CLECs had as its business model something other than facilities-based competition.

B. Claim: “CLECs cannot serve mass market customers without the continuing availability of UNEs.”

1. Introduction

51. The Commission wishes to craft unbundling rules that ensure that the mass market (defined as comprising customers with three or fewer access lines) receives the full benefit of competition. In the context of the “switching carve-out” option (a matter we consider at length later in this Reply Declaration),⁴⁰ the Commission asks whether switch deployment data are sufficient to indicate the degree to which both large business and mass market (residential and small business) customers have access to competing telecommunications carriers.⁴¹ The larger question this raises concerns the effect on mass-market customers of waiving some of the unbundling requirements, e.g., not requiring switching to be unbundled in certain areas.

2. Position of unbundling proponents

52. In response, AT&T, WorldCom, and Z-Tel contend that the mass market will not see competition if ILECs are granted relief from any of their unbundling obligations. Both WorldCom and AT&T claim that UNEs and, in particular, UNE-Ps are a leading delivery mechanism for bringing competition to mass-market customers.⁴² AT&T claims that, given the lack of adequate CLEC-supplied facilities to serve mass-market customers, CLECs will have the incentive to deploy those facilities once it is technically and economically possible to do so at costs comparable to the prices charged by ILECs for UNEs.⁴³ Likewise, Z-Tel declares that its ability to provide services to mass-market customers would be “impaired” without access to

⁴⁰ Under the switching carve-out option, ILECs’ circuit switching need not be unbundled under the following conditions: (1) customers must have four or more access lines, (2) the option is available only in density zone one of any of the top 50 MSAs, and (3) ILECs make EELs available to requesting carriers. See *UNE Remand Order*, ¶¶276-298.

⁴¹ *NPRM*, ¶57.

⁴² *WorldCom Comments* at 25-26, *Comments of AT&T Corp.* (“*AT&T Comments*”), at iii and at 11-15.

⁴³ *AT&T Comments*, at 46.

UNE-Ps,⁴⁴ and that “the availability of the UNE platform will spur the development of competition and, contrary to the ILECs’ claims, spur investment in facilities as well.”⁴⁵

53. Allegiance merely asserts that ILECs should be required to provide UNEs where they have market power, and expresses its interest in seeing this standard applied to broadband facilities as well. Allegiance claims that it will one day be able to deploy its own inter-office transport facilities (to carry broadband data traffic), but only if it is able, in the near term, to gain access to the ILEC high capacity loops it needs to provide services to small and medium-sized businesses. Absent such unbundling, however, Allegiance asserts it “will simply be unable to provide broadband, and it will never invest in alternative facilities.”⁴⁶

3. Reply

a. Issues visited by the NPRM

54. In the three years since the Commission last reviewed its unbundling policies, several circumstances have changed—a fact that the Commission recognized repeatedly throughout the *NPRM*. At the risk of oversimplifying, the Commission’s quest this time around (as articulated in the *NPRM*) comprises three central questions:
- Are the definitions of “necessary” and “impair” adopted in the *UNE Remand Order* still appropriate three years on, and should some of the criteria laid out in that original formulation be used or weighted differently?
 - In light of current circumstances, should extant unbundling policies be modified to permit waivers and exemptions from unbundling for certain network elements, based on market, service, customer, facility, and geographical location characteristics?

⁴⁴ *Comments of Z-Tel Communications, Inc.* (“Z-Tel Comments”), at 20.

⁴⁵ *Id.*, at 21.

⁴⁶ *Comments of Allegiance Telecom* (“Allegiance Comments”), at 2.

- In light of the importance and recent history of broadband deployment and new and advanced services, which network elements should be retained for continued unbundling, and should special use and co-mingling restrictions that currently apply to CLECs be retained as well?

55. The answers to these complex questions can all be shown to depend ultimately on the fundamental issue of giving new meaning, as warranted, to the Commission's "necessary" and "impair" standards. The position of ILECs and, in particular, of the RBOCs on this issue has already been articulated in the opening round of this proceeding.⁴⁷ The CLECs, on their part, have argued strenuously for the retention, and even expansion, of current unbundling rules, particularly as they pertain to network elements needed to provide advanced services. Resolving these diametrically opposed positions will require another careful look at the objective criteria that make up the Commission's "necessary" and "impair" standards. The stakes are particularly high in this debate when it comes to serving mass-market customers.

b. Focus on the "Necessary and Impair" standard

56. In the *UNE Remand Order*, the Commission distinguished between network elements that are "proprietary in nature" from those that are not.⁴⁸ For elements that are proprietary in nature, the Commission established the following "necessary" standard:

Taking into consideration the availability of alternative elements outside the incumbent's network, including self-provisioning by a requesting carrier or acquiring an alternative from a third-party supplier, lack of access to that element would as a *practical, economic, and operational matter, preclude* a requesting carrier from providing the services it seeks to offer.⁴⁹

Further, for elements that are *not* proprietary, the Commission defined its "impair" standard thus:

⁴⁷ See *Declaration of Howard Shelanski*, on behalf of BellSouth, Qwest, SBC, and Verizon, and separate comments submitted by each of the RBOCs.

⁴⁸ *UNE Remand Order*, ¶35.

⁴⁹ *Id.*, ¶54. Emphasis partly in original, partly added.

Taking into consideration the availability of alternative elements outside the incumbent's network, including self-provisioning by a requesting carrier or acquiring an alternative from a third-party supplier, lack of access to that element *materially diminishes* a requesting carrier's ability to provide the services it seeks to offer.⁵⁰

To determine what constitutes "materially diminish," the Commission spelled out five criteria: (1) cost, (2) timeliness, (3) service quality, (4) ubiquity, and (5) operational issues.

57. In addition to these "necessary" and "impair" standards, which it considered "minimum conditions," the Commission identified five other factors as having a bearing on the unbundling decision: (1) the rapid introduction of competition in all markets, (2) promotion of facilities-based competition, investment, and innovation, (3) reduced need for regulation, (4) market certainty, and (5) administrative practicality.⁵¹
58. Considerable discussion has been devoted to these standards and criteria, and whether different weights should be assigned to them, in submissions from various parties in the initial round of this proceeding. It suffices here to reiterate that the only economically meaningful interpretation of the Commission's "impair" standard is as follows: impairment does not occur when (1) technically and economically feasible alternatives to ILEC-supplied UNEs are available from non-ILEC sources (even if the UNE-based CLEC does not use those alternatives), and (2) alternatives are available even if the CLEC fails to compete successfully for the retail service. Stated another way, impairment cannot occur when a network element does not meet the definition of an essential facility.⁵²

⁵⁰ *Id.*, ¶56. Emphasis added.

⁵¹ *Id.*, ¶60.

⁵² The Commission has already opined that the analogy to essential facilities does not apply. See *UNE Remand Order*, ¶¶57-61. However, that has not stopped WorldCom from freely using the analogy or referring to "essential inputs." See *WorldCom Comments*, at 14 and 63. In rejecting the analogy, the Commission drew a distinction between an antitrust matter (compelling a monopolist that controls an essential facility to deal with its downstream competitor) and a public policy matter (imposing a duty or an obligation on the ILEC to make its network elements available as UNEs). While this *procedural* distinction may be valid, it does not obviate the *economic* analogy between essential facilities and UNEs. In both cases, the service or element in question is available solely from one source (generally, the ILEC) and a downstream competitor of that source does not

c. Costs of maintaining unbundling when impairment standard is not met

59. The contention by AT&T, WorldCom, and Z-Tel that the mass market will not see competition if ILECs are granted relief from unbundling obligations may be examined in light of the Commission's standards and the implication drawn above. The Commission has crafted a gradualist approach to the eventual cessation of its unbundling policies by carefully delineating, as in the case of the switching carve-out, the conditions under which unbundling relief may be granted. By setting out its minimum statutory criteria for impairment and augmenting them with additional criteria based on some of its—and the 1996 Act's—long-term goals, the Commission has placed a high burden on ILECs to prove that CLECs possibly cannot be facing impairment. Although the burden appears to have been placed on the wrong party—it should be up to the CLEC to prove impairment, whether in the mass market or elsewhere—the Commission is mindful that unbundling is not meant to be a permanent state of affairs. Rather, unbundling is only required—again, whether in the mass market or elsewhere—to ensure that transition occurs to a state of market competition (envisioned by the 1996 Act) that cannot be reversed when unbundling ceases.
60. While this gradualist approach is, in principle, sensible and worthwhile if implemented fairly and objectively, another crucial element in any debate over that approach ought to be the social cost of continuing unbundling when, by all the standards and criteria established, it is no longer warranted. Although the question of the social cost of

have the ability to feasibly obtain a competitive alternative to that service or element. Also, in both cases, the relevant market for the wholesale facility would have to be defined in order to determine whether (and how much) the competitor would be constrained or “impaired” in the retail market if denied the facility. The economic parallel here stands regardless of the manner in which the problem is dealt with.

In a recent ruling, the DC Circuit Court held that, even if it declined to apply the essential facilities doctrine to the determination of when a competitor may be impaired, the Commission's use of cost disparities between ILECs and CLECs in supplying a network element cannot be justified unless it first established that those disparities exist because of natural monopoly conditions in the provision of the element. This requirement to consider the underlying “cost characteristics” of supplying an element appears to point to a standard for impairment and unbundling mandates that is integral to the essential facilities doctrine. See United States Court of Appeals for the District of Columbia Circuit, *United States Telecom Association, et al., Petitioners v. Federal Communications Commission and United States of America, Respondents, Bell Atlantic Telephone Companies, et al., Intervenor*, No. 00-1012 (consolidated with 01-1075, 01-1102, and 01-1103), Decision of May 24, 2002 (“DC Circuit Order”).

unjustified unbundling is particularly relevant for the mass market, it applies to other markets as well. Thus, it must be asked what the consequences of aggregate social welfare are to retain unbundling when impairment is no longer an issue.

61. From an economic and social welfare standpoint, persisting with unbundling even when impairment no longer occurs inevitably introduces distortions. The first distortion occurs when competitive entry is skewed toward the use of UNEs or UNE-P by the availability of network elements at prices below those that would be paid to obtain technically and economically feasible alternatives from other sources. As explained earlier, this reduces technical and dynamic efficiency and aggregate social welfare in the long run. The second distortion occurs when technology choices are skewed toward UNEs and UNE-P, dampening CLECs' incentives to invest in their own facilities in the process. At the same time, fearing that CLECs would appropriate much of the reward from innovation while assuming none of the ILECs' risks, the ILECs themselves find less incentive to invest in more advanced technologies or services. The third distortion occurs as the delay in waiving the unbundling rules, even when those rules are unwarranted by the Commission's own impairment criteria, only perpetuates the need for regulation and consequent litigation and for the Commission to stay engaged in mediating relationships among ILECs and CLECs. Thus, these three distortions from continuing unbundling when its time has passed only makes satisfying the five additional criteria specified by the Commission for the impairment test that much more difficult.
62. A more specific concern arises with respect to continuing unbundling rules for market segments in which customers are predominantly residential and small business, while granting unbundling relief in areas where customers are primarily large businesses. The Commission has noted that CLECs tend to deploy their own switches mostly in the top 50 MSAs, which also have the largest concentrations of large business customers.⁵³ Is it possible that granting unbundling relief only in parts of the top 50 MSAs where large business customers are concentrated can actually encourage CLECs to deploy

⁵³ *NPRM*, ¶157.

their own resources only in those areas, comfortable in the knowledge that ILEC facilities would continue to be available as UNEs in areas where mass market customers predominate? The answer is very likely “yes,” signifying that being unnecessarily conservative about granting unbundling relief can actually prove to be counter-productive to the Commission’s goals in the long run.

63. It is ironic indeed that AT&T sees none of these ill-effects of persisting with unbundling when impairment is no longer an issue. For example, it states:

Accordingly, if the Commission declines to order unbundling where CLECs would nonetheless be impaired, it is guaranteeing that there will be neither UNE investment nor facilities investment.

Conversely, if the Commission were to order unbundling in some instance where CLECs would not be “impaired” in the absence of unbundling—because, for example, concerns with administrative practicality lead the Commission to order “marginally overinclusive” unbundling (*UNE Remand Order* ¶36)—such action would do no harm to competition, for it would not diminish any CLEC’s incentive to invest in its own facilities.⁵⁴

This assertion is not supported by any credible empirical evidence whatsoever. In a later section of this Reply Declaration, we explain why even the putative empirical evidence submitted by AT&T and Z-Tel on this point is deeply flawed and unpersuasive.⁵⁵

d. Benefits from unbundling relief when impairment standard is not met

64. The grant of unbundling relief when the conditions for impairment are no longer satisfied can, in fact, prove beneficial for overall social welfare. Such relief would preserve ILECs’ investment incentives and move competitors toward deploying their own facilities. Customers would be the beneficiaries of efficient, rather than subsidized, competition through greater product variety and lower prices. The transition to market-based pricing of network elements offered previously as UNEs would also improve the efficiency of intramodal competition itself.

⁵⁴ *AT&T Comments*, at 46.

⁵⁵ See Section III.F.

C. Claim: “Cost differentials between ILECs and CLECs constitute an insurmountable barrier to entry.”

1. Introduction

65. Among its criteria for determining whether CLECs are impaired without the unbundling of specific ILEC facilities, the Commission has given a prominent role to the *cost* a CLEC incurs to obtain facilities from alternative sources (such as self-supply or third party sources).⁵⁶ Under this rubric, the Commission looks not only at the CLEC’s direct cost to purchase an element from an ILEC, but also “all of the costs that requesting carriers would incur using an alternative element to provide the services it seeks to offer.”⁵⁷ This includes both fixed costs (with which are associated economies of scale) and sunk costs. Specifically, for making judgments about impairment, the Commission wishes to “evaluate the difference between the cost to a requesting carrier of obtaining an unbundled element from the incumbent LEC at forward looking costs and the cost of an alternative element.”⁵⁸ Re-affirming its use of cost as an objective criterion, the Commission asks whether it should accord any more or less weight to cost than to any of its other four objective criteria (namely, timeliness, quality, ubiquity, and operational issues).⁵⁹

2. Position of unbundling proponents

66. Predictably, unbundling proponents in this proceeding assert that the economics of the local exchange market prevent the CLECs generally from deploying alternative facilities.⁶⁰ They also contend that transactions and assembly costs cause CLECs to be impaired on operational grounds. Responding to the Commission’s cost criterion, some CLECs claim that the economies of scale experienced by ILECs raise

⁵⁶ *UNE Remand Order*, ¶¶72-88.

⁵⁷ *UNE Remand Order*, ¶72.

⁵⁸ *Id.*, ¶74.

⁵⁹ *NPRM*, ¶19.

⁶⁰ *AT&T Comments*, Attachment F—Declaration of Robert D. Willig (“*Willig Declaration*”), at 58.

insurmountable barriers to entry for competitors.⁶¹ CLECs also claim that the existence of a “price umbrella” created by supra-competitive ILEC retail prices makes it exceedingly difficult for them to determine accurately where facilities construction is economical. Finally, CLECs claim that they cannot rely on their own switches to serve as meaningful competitive alternatives to ILEC switches (purchased as UNEs) because their own switches are severely underutilized.⁶²

3. Reply

67. The CLEC claim of significant cost differentials between ILECs and CLECs rests on several unsubstantiated assertions. More importantly, that claim leaves the impression that the alleged barriers to entering the local exchange market are also insurmountable, because of which CLECs could only hope to compete if UNEs were to remain available and the list of network elements qualifying as UNEs was itself expanded. Moreover, to sustain CLEC competition, the Commission would have to remove certain restrictions that it had previously placed on the use of UNEs.
68. From an economic perspective, these arguments are without merit and are, in fact, contradicted by evidence from the marketplace. To begin with, marketplace evidence clearly contradicts the assertions that CLECs cannot deploy alternative facilities economically. Detailed evidence on this point is presented in Section III.F.
69. Only recently, CLEC representatives were touting the successes of the CLECs, highlighting the fact that in 2001 alone—the year that saw the so-called CLEC meltdown—CLECs invested \$12.3 billion in advanced networks.⁶³ Those representatives also pointed out that in the six years since the passage of the 1996 Act, CLECs have collectively invested about \$65 billion, which amounts to more than what

⁶¹ *Id.*, at 61.

⁶² *Id.*, at 65.

⁶³ *Telecommunications Report*, “CLECs Lobby to Preserve Revenue, Access-Line Gains,” April 22, 2002.

intermodal competitors like cable companies have spent on new networks and not far from what the RBOCs have spent themselves.⁶⁴

70. Apart from marketplace evidence, economic theory itself throws considerable doubt on this claim of unbundling proponents. For example, Dr. Willig (for AT&T) asserts that there are myriad respects in which CLECs face inherently greater operating and capital costs than ILECs.⁶⁵ He lists several examples including set-up costs, entrants' lack of knowledge about local operating conditions, and the need for CLECs to compete against the ILEC's strong brand name. Dr. Willig concludes that CLECs have higher risks and capital costs than ILECs and, for that reason, investors demand higher hurdle rates. Unfortunately, while it may be true that some aspects of the CLEC business impart greater risk, Dr. Willig ignores the factors that also make the CLEC business *less* risky.
71. For example, unlike ILECs that are obliged to serve all customers throughout their service territory (including small rural customers who frequently pay below-cost prices), CLECs can—and do—selectively target customers that offer the highest profit margin. Not surprisingly, many CLECs have adopted a strategy of targeting large businesses in densely populated urban areas. These customers generate significant traffic volume and are relatively cheaper to serve because of the economies of density in those areas.⁶⁶
72. In addition, CLECs face lower risk than ILECs from the likelihood of stranded network investment due to unforeseen changes in demand and technology. At their option, CLECs can use ILEC network investment rather than have to place their own equipment. If demand fails to materialize, or if technology renders the equipment obsolete, it is the ILEC that must absorb the loss, not the CLEC. Similarly, ILECs have had to provide ubiquitous service in the past, so their networks contain

⁶⁴ *Id.*, quoting John Windhausen Jr., President of ALTS.

⁶⁵ *Willig Declaration*, ¶¶47-51.

⁶⁶ Evidence on this point is presented in the *UNE Fact Report* and, from an alternative perspective, in Section III.F below.

technologies of many different vintages. Thus, the lowest cost method of expanding capacity for ILECs may be more expensive than for CLECs whose networks can be constructed on a blank slate, unconstrained by past investment.

73. Moreover, Dr. Willig's observation that CLECs must compete against the ILEC's strong brand name ignores several important facts. Many top CLECs including AT&T and WorldCom enjoy strong brand name recognition themselves and, consequently, can hardly suffer such a disadvantage. In addition, Dr. Willig surely overestimates the value of longstanding brand names in the telecommunications market, given the fact that two major ILECs, Verizon and Qwest—formerly Bell Atlantic (and NYNEX) and U S WEST, respectively—have successfully established new brand identities for themselves in a relatively short period of time.
74. Even if some CLECs do, in fact, face more risk than ILECs because of the factors cited by Dr. Willig and must, therefore, pay higher premiums to their equity holders than must ILECs, it is a considerable leap from that to the conclusion that CLECs are unable to compete successfully. Dr. Willig appears to equate unequivocally the factors that lead to cost differentials with barriers to entry, and fails to explain what makes the alleged barriers to entry *insurmountable*. The simple fact that some CLECs may have a higher cost of capital than ILECs is *not* sufficient to conclude that those CLECs cannot compete.⁶⁷ Competing firms in a market rarely have identical costs of capital. The cost of capital of a firm has several components including the cost of debt, the cost of equity, and the amount that the firm is leveraged, i.e., the ratio of debt to equity financing. We do not expect that General Motors, Ford, Nissan or Daimler-Benz all have the same cost of capital; nevertheless, those automobile companies among them that have higher costs of capital are able—and have managed—to compete successfully in the long run.

⁶⁷ Even Z-Tel appears to acknowledge that, while cost differences may have a bearing on the ability to compete, it is not just *any* cost difference that constitutes impairment. *Comments of Z-Tel Communications, Inc.* ("Z-Tel Comments"), at 27.

75. The argument that economies of scale present a barrier to entry is overblown in the current context. Public policy in the U.S.—as expressed by the 1996 Act—is based on the premise that economic and technological progress in telecommunications has changed the dynamics of the industry and invalidated the assumption—which prevailed throughout most of the 20th century—that the industry is a natural monopoly. The economic premise of the 1996 Act is that economies of scale, scope, and density—while still important in their own right—need not present an insurmountable barrier to entry in the local exchange market for efficient competitors. While it recognized that this premise might not apply uniformly across the nation, Congress facilitated entry by requiring, among other things, that certain elements of the ILECs’ network be made available to CLECs on non-discriminatory and cost-based terms. Thus, unbundled access to loops breaks down entry barriers in certain geographic regions where economies of scale may still be significant. That does *not* mean, however, that *any* revision of the unbundling rules—not just for ordinary voice-grade loops but for *all* ILEC facilities—should be ruled out because of the specter of economies of scale.
76. The argument that CLEC’s own per-unit switching costs are higher because of the underutilization of their switches is unpersuasive in view of both marketplace evidence and economic theory. First, many CLECs—particularly, intermodal competitors—are already offering switch-based services at competitive rates and are clearly not handicapped in the manner that Dr. Willig suggests.⁶⁸ Second, as Dr. Willig has himself recognized on other occasions, the relevant time frame for measuring forward-looking economic costs is the *long run*. This is the standard to which ILECs are held when determining their prices for interconnection and UNEs, and so it should be the standard for CLECs as well. While it is true that new CLEC switches initially provide far more capacity than needed to serve *current* levels of demand, the same would be

⁶⁸ For example, Cox Communications claims to be providing digital telephone service out of their facilities at several locations, and doing so at prices that are lower than those charged by incumbents. Cox’s switch-based operations serve eight major markets across the country (Orange County, San Diego, Phoenix, Omaha, New Orleans, Oklahoma City, Hampton Roads-Norfolk-Newport News, and New England). See <http://www.cox.com/PressRoom/Telephony%20Markets.pdf>, <http://www.cox.com/PressRoom/Q1%202002%20Earnings%20Release.asp>, and <http://www.cox.com/corporate/Competition.asp>.

true of new ILEC switches as well. Efficient firms' utilization levels for new switches tend to be low initially and reach optimal levels only in the long run.⁶⁹ The fact that they may be low initially does not imply that those firms are high-cost providers or inefficient. It is remarkable indeed that Dr. Willig should raise this as an issue, given his support for TELRIC pricing principles that focus on long run, not short run, forward-looking costs.

⁶⁹ The DC Circuit Court's recent ruling shows an appreciation of precisely this point. For example, the *DC Circuit Order* states: "[A]verage unit costs are necessarily higher at the outset for any new entrant into virtually any new business." Also, it asks the Commission to consider the presence of economies of scale "over the entire extent of the market," signifying a decidedly long run view of cost and the market as a whole.

D. Claim: “Competition based on the availability of UNE platforms benefits consumers and leads to facilities investment by CLECs.”

1. Introduction

77. Although the 1996 Act contemplated the use of UNEs as a possible mode of entry in the local exchange market, the UNE-P was a subsequent creation of the Commission’s. As noted in Section III.A, several CLECs that are not primarily facilities-based but are prominent intramodal competitors have staked their entire competition strategy on the continued availability of UNE-Ps at TELRIC-based prices. The Commission seeks comment on whether certain exceptions to UNE-P availability may now be advisable,⁷⁰ e.g., lifting the unbundling requirement on ILEC circuit switching when specific conditions are satisfied.⁷¹ The pertinent point here is that such exceptions would, in effect, mean that the network elements that are in the UNE-P, i.e., loops and switching, would no longer be available as a platform at TELRIC-based prices.

2. Position of unbundling proponents

78. Not surprisingly, intramodal CLECs claim almost unanimously that UNE-P based competition (1) benefits consumers and (2) is a necessary precursor to investment by CLECs in their own facilities. AT&T asserts that the back-office systems associated with UNE-P give rise to “substantial value-added” and “stimulates the economy.”⁷² WorldCom asserts that “UNE-P is the only method capable of creating widespread local competition and it is undisputed that such competition is desirable.”⁷³ Regarding CLEC investments in their own facilities, AT&T states that “UNE-P competition enhances the ability of CLECs to transition to facilities-based entry.”⁷⁴ Similarly, WorldCom claims that there are no offsetting disadvantages to making UNE-P

⁷⁰ *NPRM*, ¶46.

⁷¹ See *supra* fn. 40.

⁷² *Willig Declaration*, at 78.

⁷³ *WorldCom Comments*, at 81.

⁷⁴ *Willig Declaration*, at 80.

available and in particular that “the availability of UNE-P does not deter CLECs from deploying facilities.”⁷⁵

3. Reply

79. While the availability of the UNE-P can be a great advantage to CLECs, it is not clear exactly how UNE-P availability either benefits consumers *in the long run* or is a prerequisite for CLEC investment in their own facilities. Unbundling proponents have presented *no* evidence in this proceeding to substantiate their claim that UNE-P availability benefits consumers in the long run. It is hard to disagree with the notion that reducing a CLEC’s operating cost artificially—the only direct effect of having UNE-P available when, in fact, unbundling is not warranted for particular network elements—is a great advantage for that CLEC. Also, if the CLEC flows through that cost reduction into artificially low prices for its services, consumer welfare may be boosted in the short run as well. But, taking the proper long run perspective and focusing properly on aggregate social (not just consumer) welfare, the artificial short run benefit to CLEC and its customers alike from UNE-P availability simply cannot be justified.⁷⁶
80. When it arises due to a market distortion or inefficient pricing of resources, a short run gain in consumer welfare is decidedly not in the public interest. Consumer welfare is advanced by competition because competition is a catalyst for efficient behavior that leads to lower costs, lower prices and increased innovation. But, when UNE-P is made available at an artificially reduced price, any consequent lowering of service prices to the CLEC’s customers is not accompanied by lasting and truly beneficial efficiency gains in the allocation and use of resources. The artificially low price of UNE-P is likely to act as a beacon even to high-cost entrants who would, if subjected to true competition, ordinarily be deterred from deploying their own higher-cost or less

⁷⁵ *WorldCom Comments*, at 82.

⁷⁶ Social welfare is the sum of both consumer and producer welfare (or surplus). Enlightened public policy must always try to maximize aggregate social welfare. Focusing solely on one may sometimes lead to unacceptable sacrifices of the other.

efficient facilities. Thus, the manner in which UNE-P is priced may prove to be a short run boon to consumers, but one that could prove counter-productive to their interests in the long run as entry by high-cost and less efficient competitors would (1) oversupply the services being produced by UNE-P and (2) reduce the incentives for both technical and dynamic efficiency. Instead, the only gainers in the long run would be the less-efficient entrants that are the beneficiaries of surplus transfers from the ILEC that is the source of UNE-P. Importantly, the public interest can only be advanced by *competition*, *not* by the protection or advancement of a *competitor* and/or that competitor's interests. UNE-P proponents in this proceeding have not provided any evidence that UNE-P availability reduces overall prices, stimulates innovation, increases technical and dynamic efficiency, and enhances aggregate social welfare in the long run.

81. Similarly, as discussed in detail in Section III.F, there is no substantive evidence to support the claim that UNE-P “does not deter CLECs from deploying facilities.”⁷⁷ The econometric evidence purporting to show that ILEC or CLEC investment is not affected adversely by either the availability of the switching UNE or UNE prices in general falls short, however, of the standards of analysis required to make those points persuasively.

- a. **There is no incremental gain in consumer welfare from back-office activity associated with UNE-P**

82. AT&T argues that “consumers derive extraordinary benefits” when alternative providers “compete in the retail functions of packaging, pricing, and delivering the exchange and exchange access services to their ultimate consumers.”⁷⁸ According to AT&T, this gain would accrue “[e]ven if UNE-P competition did not lead to investment.” AT&T fails to make a persuasive argument here for two reasons. First, AT&T presents no empirical support for the supposed effect on consumer welfare.

⁷⁷ Also see “UNE Platforms and Investment,” attachment to BellSouth’s Reply Comments in this proceeding.

⁷⁸ *Willig Declaration*, at 78.

Second, there is no substantive difference between UNE-P and resale with regard to back-office retail operations. Any benefit from such operations could only accrue to consumers if CLECs were more efficient than ILECs at providing back-office retail functions, i.e., they could provide the retail functions at a lower incremental cost. The appropriate measure of an ILEC's cost for this comparison is the properly set state-regulated wholesale discount that is provided to resellers. The repeated claim by CLECs that the resale discount is too small to allow them to operate profitably provides *prima facie* evidence that CLECs are not more efficient than ILECs in the provision of retail functions. Thus, while there may be a short run gain to consumers from giving CLECs the opportunity to lower their costs of a production artificially, any such gain will evaporate in the long run leaving consumer welfare and both technical and dynamic efficiency diminished.

83. Substantively, there is little physical difference between UNE-P based service and total service resale. Both allow the CLEC to substitute its own retail functions for the ILEC's. When a CLEC relies entirely on the ILEC's network elements (as in UNE-P) and uses none of its own facilities, the underlying wholesale functionality is essentially the same as that obtained under resale. The only differences between the two modes of operation are what the CLEC pays for the underlying wholesale functionality and the revenues it is entitled to receive. Under resale, the CLEC pays a regulated avoided cost discount off of the ILEC's retail price for the service, while under UNE-P, the CLEC pays the sum of *element*-specific TELRIC prices set by regulators. In most cases, the latter results in a lower operating cost to the CLEC than the former. In addition, when the CLEC uses UNE-P, it is treated as a facilities-based carrier and is thus entitled to collect, among other things, carrier access charges on originating and terminating long distance calls. Hence, even while offering essentially the same service as under resale, a CLEC that relies on UNE-P gets an opportunity to artificially lower its wholesale costs of operation and increase its revenues. The manner in which UNE-P is priced and provided, therefore, distorts the choice among alternative modes of entry and causes losses of economic efficiency. Those losses are exacerbated when a CLEC can

opt for UNE-P even when circumstances do not justify the availability of UNE-P, such as when one or more of the network elements in UNE-P can be obtained by the CLEC from alternative sources without being impaired.

b. The claim that UNE-P is necessary to facilitate the transition to facilities-based market entry is without foundation.

84. AT&T argues that “UNE-P competition enhances the ability of CLECs to transition to facilities-based entry.”⁷⁹ Why is that necessarily so? If the objective is to “win customers and gain valuable information about customer demand and traffic flow”⁸⁰ before building their own facilities, then CLECs can achieve the same objective just as well by resorting to the resale option. As explained earlier, the only reason for a CLEC to pick the UNE-P mode over resale is the opportunity to obtain the underlying wholesale functionality at an artificially low cost and enhanced revenue. CLECs have already signaled their displeasure with the wholesale discounts established by state regulators around the country and, in the UNE-P mode, have found an opportunity to provide service in essentially the same form but on terms more favorable to them.
85. The argument that UNE-P availability will, over time, actually move CLECs towards using more of their own facilities simply cannot be given much credence. AT&T currently offers residential local exchange services in only four states: New York, Texas, Georgia, and Michigan.⁸¹ In all four states, it relies almost exclusively on the UNE-P option. Despite its claims of having taken major strides in the direction of building a steady customer base for local exchange services in those states and deploying its own switches, there is no evidence that AT&T has taken serious steps toward migrating its customers to its own facilities.⁸² Instead, as long as the artificial advantage afforded by TELRIC-priced UNE-P remains available to AT&T and like-

⁷⁹ *Id.*, at 80.

⁸⁰ *Id.*

⁸¹ AT&T Earnings Commentary: Quarterly Update, First Quarter 2002, April 24, 2002, at 8. Also available at http://www.att.com/ir/pdf/021q_cmnt.pdf.

⁸² See also *UNE Fact Report*, Section I, especially Figures 5 and 6.

minded intramodal competitors, it is highly unlikely that the much-anticipated transition to facilities investment of their own will occur.

E. Claim: “Competition and investment are negatively affected by the current switching carve-out policy and by increases in network element prices.”

1. Introduction

86. The Commission seeks comment on how well the switching carve-out policy, as tightly circumscribed as it was in the *UNE Remand Order*, has worked in practice, and whether revisions or refinements of that policy are now warranted given the experience of the past three years.⁸³ Obviously, a switching carve-out policy or a similar exemption from UNE status for some other network element has two effects: (1) an abandonment of the current UNE-P concept, at least where the exemption applies, and (2) a likely increase in the price of the exempted network element from the TELRIC level to a market-determined level.

2. Position of unbundling proponents

87. In their response, some of the prominent intramodal CLECs (AT&T and Z-Tel) have presented econometric analyses purporting to show that the current switching carve-out policy and increases in element prices from UNE levels affect competition and CLEC investment negatively. Z-Tel has submitted two papers⁸⁴ that analyze the Commission’s switching carve-out policy, which it labels the unbundled local switching (“ULS”) restriction. In one paper, Z-Tel concludes from its empirical analysis that there is “substantially *less* competition for residential and small business customers” when the ULS restriction applies. In the other paper, Z-Tel purports to show that a policy of continued unbundling does not provide a disincentive for intramodal competitors to deploy their own network facilities.

⁸³ *NPRM*, ¶56.

⁸⁴ Z-Tel Public Policy Paper No. 3, “An Empirical Exploration of the Unbundled Local Switching Restriction” (“*Z-Tel 3*”), and Z-Tel Public Policy Paper No. 4, “Does Unbundling *Really* Discourage Facilities-Based Entry?” (“*Z-Tel 4*”).

88. In a similar effort, AT&T claims to find an inverse relationship between the levels of UNE prices and the investments that ILECs make in their networks.⁸⁵ AT&T concludes that lower UNE prices provide an incentive to ILECs to invest more.

3. Reply

89. The empirical analyses submitted by Z-Tel and AT&T are seriously flawed and not credible. As explained below, neither AT&T nor Z-Tel provides sufficient basis for its conclusions about how the Commission's unbundling policies (and consequent UNE prices) supposedly affect ILEC and CLEC investment activity.

a. Z-Tel Public Policy Paper No. 3, "An Empirical Exploration of the Unbundled Local Switching Restriction"

90. The objective of this Z-Tel study is to make the case that ILECs should not be relieved of their current unbundling obligations, even to a limited degree as with the switching carve-out. To this end, Z-Tel employs data supposedly reflecting the experience with the Commission's ULS restriction and attempts to show that competition for mass market, i.e., residential and small business, customers is actually less in areas where that restriction applies. Z-Tel's study uses data on CLEC market share for mass market consumers as of December 2001 in a cross-sectional econometric model that relates that market share variable to various control variables, e.g., population living in cities, income, and a measure of mass market lines in each state, and to RESTRICT, a state-specific variable that Z-Tel defines as the percent of a state's population that resides in markets to which the ULS restriction applies.⁸⁶ Z-Tel's analysis uses data from 35 states.
91. There are a number of conceptual and procedural errors in Z-Tel's study. These problems arise in measurement, model specification, model testing, and making inferences (i.e., drawing conclusions). Some of the measurement and model

⁸⁵ *Willig Declaration*, Appendix 2 ("Econometric Analysis of ILEC Investment").

⁸⁶ As noted before, the ULS restriction only applies to MSAs that are ranked in the top 50 nationally. Some states do not have such MSAs.

specification problems are relatively benign, but others not so. First, Z-Tel claims its analysis is based on data “as of December 31, 2001” taken from the Commission’s May 2001 *Local Competition Report*. This may simply be a typographical error since that source actually reports CLEC market share data as of December 31, 2000, a whole year earlier. However, an uncritical eye is likely not to register that important difference and believe the data to be more current than is the case.⁸⁷ Second, the Z-Tel study reports an incorrect calculation of the mean CLEC market share of residential and small business customers. Z-Tel reports that mean to be 3.6 percent (see Table 1 of the study report). A check of the data from Tables 6 and 8 of the Commission’s May 2001 *Local Competition Report*, however, shows that mean should be 4.6 percent. See Table 4.

⁸⁷ A subsequent FCC *Local Competition Report* dated February 2002 reports data as of June 30, 2001 but even today there are no public data available as of December 31, 2001.

Table 4. ILEC and CLEC Shares of Mass Market

	Overall Lines (from Table 6) [A]	Percentage of Lines to Mass Market Customers (from Table 8) [B]	Mass Market Lines [A] x [B]	Mass Market Shares
ILEC	177,420,655	79%	140,162,317	95.4%
CLEC	16,397,393	41%	6,722,931	4.6%
Total			146,885,249	100.0%

92. A fundamental problem with Z-Tel's analysis is the specification and interpretation of its RESTRICT variable. As noted above, this variable supposedly measures the percent of a state's population that is in markets to which the ULS restriction applies. While Z-Tel claims that RESTRICT measures the effect of the Commission's ULS restriction, even a cursory examination shows that is not true. The Commission's ULS restriction applies only in Density Zone 1 areas of the top 50 MSAs *and* in cases (1) where customers have four or more lines and (2) ILECs provide EELs (i.e., loop-transport combinations) to requesting carriers. There is no practical way for Z-Tel to show—indeed, it does not show—that the percent of a state's population so situated actually captures the effect of the Commission's ULS restriction when, in fact, two other events must occur as well.
93. It is impossible to prove, for example, that the population in any top 50 MSA corresponds one-to-one with the number of customers with four or more lines. Similarly, it is unlikely that customers with four or more lines are homogeneously distributed within each of the top 50 MSAs. Further, the only population that could truly be subject to the ULS restriction is in Density Zone 1 of the top 50 MSAs, and that population is clearly not the same as, or even proportional to, the population of the MSA itself. Also, the ULS restriction only applies when ILECs provide EELs, and there is no logical connection between the population of the top 50 MSAs and whether or not ILECs provide EELs. Finally, and most importantly, Z-Tel's analysis proceeds as if the markets *eligible* for the ULS restriction did, in fact, experience that restriction during the period of interest, i.e., the ILECs in question actually exercised the switching carve-out option in the manner permitted. As we note below, that has not happened. For all of these reasons, the RESTRICT variable cannot be given much credence in its purported role, and the inference drawn in Table 2 of the Z-Tel paper cannot be interpreted as Z-Tel suggests.⁸⁸

⁸⁸ In fact, alternative explanations of Z-Tel's general finding of a negative relationship between RESTRICT and CLECSHR are possible. One possibility is that MSAs—especially those in the top 50—have disproportionately large concentrations of large business customers and CLECs make less of an effort to go after the mass market where the higher-margin business customers are located than in areas outside density zone 1 of the top 50

94. A related problem with Z-Tel's analysis arises from the rather opaque calculations that lead to Table 2 in the study. As Z-Tel explains it, "Table 2 summarizes the increase in the percentage of residential and small business lines served by CLECs if the ULS restriction is eliminated."⁸⁹ It is not obvious, however, how *exactly* the percentages reported in Table 2 were derived. Only 27 states are reported in Table 2, and it is not clear what happened to the other eight in the study. Moreover, Table 2 purports to show the effect of lifting the ULS restriction in each of the 27 states included. However, these include at least one state (Connecticut) which has *no* MSA in the top 50 (where the switching carve-out policy could apply). In addition, these include at least eight "states" (District of Columbia, Kansas, Massachusetts, Minnesota, Missouri, Oregon, South Carolina, and Virginia) which have no top 50 MSAs entirely to themselves, but have to share them with contiguous states. All of this demonstrates the disconnect between the actual scope of the Commission's switching carve-out policy and its accompanying conditions and the purely academic exercise that the Z-Tel study amounts to at best.
95. Z-Tel contends that the mere fact that CLECs have deployed their own switches in certain areas to serve large businesses does not mean that they couldn't be constrained by the switching carve-out when serving the mass market.⁹⁰ Regardless of the merits of this claim, Z-Tel overlooks the fact that even though the switching carve-out option has been available for three years now, there has been no significant attempt by the RBOCs to exercise that option in their eligible MSAs. In fact, Qwest, SBC, and Verizon have not opted to exercise the local switching carve-out and continue to make unbundled switching available. While BellSouth alone has exercised the switching

MSAs. As a statistical matter, although the Z-Tel study touts the finding of a (mildly) negative coefficient of the RESTRICT variable as being statistically significant, a t-value of 1.7 (see Table 1 of the study) has a marginal probability value of 9.9 percent (under a two-tailed test with 31 degrees of freedom). This would make it barely statistically significant at the overly generous 10 percent level of significance, but statistically *insignificant* at the more conventional 5 percent level of significance. While choosing the level of significance is often a matter of taste, when something of this order of importance is involved, it is better to use a less liberal significance level, indeed, to conform with standard practice.

⁸⁹ Z-Tel 3, at 7.

⁹⁰ Z-Tel Comments, at 49.

carve-out option in its eight eligible MSAs and offered UNE-P with a market-priced switching (port) component, it has yet to actually collect the difference between the TELRIC-based price of the port and the market price set for it.

96. Some flaws in the research procedure throws doubt on the conclusions Z-Tel draws from its study. For example, contrary to Z-Tel's claim that data are available for only 35 states, Tables 6 and 8 (the very tables Z-Tel assertedly relies on) of the May 2001 *Local Competition Report* are, in fact, available for 36 states.⁹¹ Z-Tel provides no explanation for its selective use of data. It appears that Z-Tel's study omits Hawaii,⁹² a state where CLECs have no customers and no MSA is ranked in the top 50, i.e., among those subject to the switching carve-out. Such an omission may be expected to bias Z-Tel's analysis away from the conclusion that the switching carve out (or, ULS restriction) does not inhibit mass market competition. The omission of an observation in which the CLEC market share is zero and the value of RESTRICT is zero as well (i.e., the switching carve out has no effect) can very likely produce this bias.⁹³ Leaving such an observation out of the analysis is similar to asking whether there is a relationship between the number of hours that runners train and how fast they run a mile, but also leaving out data on the one runner who trains the most (least) and runs the fastest (slowest) mile.
97. Perhaps the most serious problem with Z-Tel's model is that it has no structural foundation in, or justification from, economic theory. In other words, the model specification is purely *ad hoc* and does not emerge from a well-considered structural or

⁹¹ Data for some states are omitted from the *Local Competition Report* in order to keep the identity of some reporting carriers confidential.

⁹² In Table 8 of the May 2001 *Local Competition Report* (Percentage of Lines Provided to Residential and Small Business Customers), the CLEC share of lines in Hawaii is marked "NA" but that is because in Table 6 of the same report (the other table cited by Z-Tel as its source) the overall CLEC share of end-user lines in Hawaii is zero. For Z-Tel's purposes, the value of both the CLEC mass market share and RESTRICT variables should have been zero in Hawaii.

⁹³ Beyond Z-Tel's choice to omit a data point, its model results are also likely to be biased by the fact that the ULS restriction applied, or did not apply, in non-included states as well. Unfortunately, the FCC's *Local Competition Report* does not contain data for the states not included in Z-Tel's study. For this reason, while a bias certainly exists in Z-Tel's findings, it is impossible to know *a priori* the direction or magnitude of that bias.

behavioral relationship among variables. Consequently, interpretation of the model results is hazardous and difficult. Unlike a traditional demand model in which economic theory would bind the analyst to considering how the demand for CLEC services varies with prices (both of the CLEC's own services and of alternative ILEC services), income, and a measure of market size, Z-Tel's model simply asserts that a certain relationship exists among a group of variables chosen subjectively. Z-Tel's assertion that "we employ econometric methods to evaluate any systematic effects of the ULS restriction on competition" is thus an overstatement. Econometric analysis represents a confluence of the tools of economic theory, mathematics, and statistical inference. The main objective of the econometric method is to give empirical content to economic theory by testing hypotheses derived from well-structured theory. While Z-Tel has conducted a statistical analysis of sorts, its study is purely *ad hoc* and based on no underlying economic theory.

98. Finally, the greatest irony is that Z-Tel's conjecture about reduced mass market competition in areas with the switching carve-out could be correct, but *not* for the reasons offered by Z-Tel. Rather, as explained earlier, the switching carve-out policy is presently extended only to areas where large business customers predominate, also areas where CLECs tend most to deploy their own resources. In contrast, however, that relief from unbundling switching is not available in areas precisely where mass market customers predominate but where the continued availability of switching as a UNE leaves CLECs with little incentive to deploy their own facilities or even to compete seriously.

b. Z-Tel Public Policy Paper No. 4, "Does Unbundling Really Discourage Facilities-Based Entry?"

99. Once again, to advance the argument that ILECs should not be relieved of their current obligation to make the switching UNE available to requesting CLECs, Z-Tel focuses on CLEC switch deployment between April 2000 and October 2001 and attempts to show with an econometric model that the ULS restriction reduces the level of CLEC switch deployment in markets with the ULS restriction. Z-Tel's model specifies CLEC

local switch deployment per access line (the dependent variable) as a function of market size (the CLEC's expenditures in a state on local exchange service), market density (the number of access lines per square mile), and the same RESTRICT variable that is intended to capture the effect of the Commission's ULS restriction.⁹⁴

100. As with Z-Tel's other model, a fundamental problem remains with the specification and interpretation of the RESTRICT variable. Without unnecessarily belaboring the point, it is worth mentioning that Z-Tel's use of the RESTRICT variable remains flawed primarily because the proportion of a state's population living in a top 50 MSA does not, in any meaningful way, measure the effect of the Commission's ULS restriction on CLEC market share. This measurement problem alone invalidates any conclusion drawn by Z-Tel from this analysis, but there are additional problems worth noting as well.

101. Z-Tel estimates its econometric model in the double-log form but neglects to explain its preference for that functional form. After having devoted considerable attention to functional form choice in its other paper, Z-Tel's lack of discussion of functional form choice in this instant paper is curious and smacks of arbitrariness and expediency.

102. Z-Tel uses a purely cross-sectional model (in which all variables are measured at one point in time) for the 48 contiguous states.⁹⁵ From this model, Z-Tel attempts to make *causal* inferences, i.e., draw conclusions about adaptive behavior by CLECs as the environment changes. It is well known in econometrics that such causal inferences cannot be made without observing the item of interest (here CLEC switch deployment) *over time*. Indeed, it is commonplace to use time series or panel (i.e., a combination of

⁹⁴ State regulation in New York and Texas has effectively superseded the Commission's ULS restriction. Thus, Z-Tel also estimates a second model where RESTRICT is replaced by two variables: TOP50 (the percent of a state's population that lives in a top 50 MSA regardless of whether there is a ULS restriction) and D (a variable equal to 1 for New York and Texas, and 0 for all other states in the study). The overall restriction in Z-Tel's second model is specified as TOP50 and the product of TOP50 and D.

⁹⁵ Even though the paper measures the dependent variable as the number of CLEC switches deployed over a certain period, it appears not to measure variables over time as in a true time series study. Thus, the dependent variable is a single-valued count of switches in every state, not a series of discrete (e.g., monthly) counts of switches within each state over time. All other variables in the study also appear to be measured as single values for each state.

time series and cross-sections) data to study adaptive behavior and make causal inferences.⁹⁶ All that a Z-Tel type cross-sectional model can determine is how *differences* among market shares of CLECs in different states—but at one given point in time—relate to the varying circumstances of those states. It cannot, without time series or panel data, determine how the switch deployment activity of a given CLEC *changes* as that CLEC attempts to adapt to changing circumstances over time, e.g., as the MSA in which it is operating becomes subject to the ULS restriction or some other policy change.⁹⁷

103. Z-Tel’s study takes the number of CLEC local switches per access line deployed between April 2000 and October 2001 as its dependent variable and asserts, using this single measurement, that there is “statistically significant evidence that the Commission switching restriction reduced the deployment of CLEC local switches.”⁹⁸ This conclusion is, in all likelihood, spurious and arises from a critical procedural error, namely, Z-Tel’s ignoring the number of CLEC switches deployed prior to April 2000. Indeed, it is not at all surprising that by April 2000 (long after CLECs had entered the market), CLECs had already deployed virtually all the switching capacity per access line they needed—especially in major metropolitan areas where the ULS restriction came to apply. Thus, a comparison of CLEC switch placements during April 2000–October 2001 in the top 50 MSAs versus other locations (which is essentially what Z-Tel’s study does) conceivably only reveals that, by that point in time, CLECs had already placed most of the switches they needed in the top 50 MSAs (which they

⁹⁶ See, e.g., Cheng Hsiao, *Analysis of Panel Data*, New York: Cambridge University Press, 1986, at 2-3, and Badi H. Baltagi, *Econometric Analysis of Panel Data*, New York: John Wiley & Sons, 1996, at 4-6.

⁹⁷ The DC Circuit Court appears to recognize precisely this point when it states: “[T]he existence of investment of a specified level tells us little or nothing about incentive effects. The question is how such investment compares with what would have occurred *in the absence* of the prospect of unbundling” *DC Circuit Order* (emphasis added).

⁹⁸ *Z-Tel 4*, at 6.

entered first) and that they were now concentrating on switch placements to serve less densely populated areas.⁹⁹

104. Indeed, Z-Tel's own results appear to confirm this possibility. While the two models Z-Tel estimates for the April 2000–October 2001 period produces statistically significant associations of CLEC switch deployment with the RESTRICT and/or TOP50 and D variables, those same models when estimated for the January 1999–April 2000 period (the period prior to that used in Z-Tel's primary models) reveals no such statistically significant association.¹⁰⁰ Z-Tel concludes that the ULS restriction (which applied only in the later period) is the reason for this difference. An equally plausible explanation, however, could be the one discussed above, namely that the need to deploy switches in the ULS restriction-affected areas during the April 2000–October 2001 period had declined because of the build-up of CLEC switching capacity prior to April 2000.

⁹⁹ Telcordia's *Local Exchange Routing Guide* ("LERG") database reveals that the number of CLEC switches in markets within the BellSouth region that were eligible for the switching carve-out became progressively a smaller percentage of all CLEC switches in the region. Thus, that *percentage* fell from 55 in July 1998 and 51 in October 1999 (before the restriction applied) to 49 in August 2000 and 45 in June 2001 (after the restriction applied). Any rush, however, to conclude that this proves Z-Tel's point would be a grave mistake for a number of reasons. First, although the percentage of CLEC switches in restricted markets declined, the *number* of CLEC switches deployed actually rose consistently (120, 218, 413, and 455, respectively, at the four points in time). Second, the falling percentage in the restricted markets is consistent with the strong possibility that, in those markets, switch placement occurred earlier than in other markets. Since those markets were also the most populous, the initial placement of switches by CLECs happened there, and most of the switch placement in non-restricted markets that happened later reflected attempts by CLECs to extend service to less populous markets. Third, this pattern of an apparent shift in facility installation from restricted to non-restricted markets (coincidental as it is) is also true of CLEC networks in general. Thus, Table 17 (in Section III.F below) can be further processed to show that the growth in CLEC networks between 1998 and 2001 occurred more rapidly in the smaller MSAs than those ranked in the top 50 nationally.

¹⁰⁰ Some of the other findings of Z-Tel's study *not* discussed at any length by Z-Tel leave room to question the specification of the four models estimated. For example, although the coefficient of the *SIZE* variable appears to be stable across the four models, it is statistically significant only for Models 3 and 4 (which correspond to data from the "prior" period, January 1999–April 2000). Moreover, the estimated relationship is negative, suggesting that *ceteris paribus* the number of CLEC switches deployed is inversely related to market size (as measured by local exchange revenues earned by ILECs). This would suggest that CLECs were more (less) likely to deploy switches in the smaller (larger) markets *even before the switching carve-out policy went into effect*. The Z-Tel paper provides no explanation for this counter-intuitive result, or even whether it is an artifact caused by specification error.

c. AT&T Study of UNE Prices and ILEC Investment

105. AT&T has submitted an econometric analysis by Dr. Willig that investigates whether the level of ILEC investment is positively related to the level of UNE prices.¹⁰¹ The purpose of the study is to conduct an empirical test of two competing theories of the role UNE prices play in determining trends in ILEC investment. The first theory posits that lower-than-market UNE prices discourage ILEC investment in those assets that must be shared with competitors. The second theory posits an opposite relationship, namely, that low UNE prices induce more CLEC entry and that, in turn, motivates ILECs to ward off the competitive threat by stepping up their own network investment.
106. Like the Z-Tel studies, the AT&T econometric analysis also suffers from several conceptual and procedural flaws. There are two significant conceptual problems that call into question the rationale underlying the relationship explored econometrically. First, no distinction is made between ILEC investment that is made in order to accommodate UNE-based competition, e.g., collocation and OSS investment, and ILEC investment in new plant and equipment that is more likely made in response to competition from CLECs. Thus, while investment in collocation and OSS is necessitated by CLEC market entry, that form of investment has nothing to do with what Dr. Willig is testing, namely, how ILEC investment responds to competitive threats. Second, no distinction is made between competition from UNE-using CLECs and competition from facilities-based CLECs. Quite apart from procedural flaws with AT&T's econometric analysis (discussed below), Dr. Willig's finding that UNE prices are negatively correlated with ILEC investment could simply be the result of ILECs having to make more entry-accommodating investments when CLEC entry occurs in response to below-market UNE prices. There is no attempt to use the model to explore the two different forms in which ILEC investment could occur. A better approach would have been to explore two separate models:

¹⁰¹ *Willig Declaration*, Appendix 2 ("Econometric Analysis of ILEC Investment").

(A) ILEC investment to accommodate UNE-based CLEC entry as a function of (1) the level of UNE-based CLEC entry and (2) other factors in Dr. Willig's analysis.

and

(B) ILEC investment *net* of investment to accommodate UNE-based CLEC entry as a function of (1) the level of facilities-based CLEC entry and (2) other factors in Dr. Willig's analysis.

107. The hypothesis implicit in the AT&T study—that the increased threat of competition from CLECs raises the market risks ILECs face and induces them to undertake defensive investments in their own networks—is sought to be captured in the econometric model through the UNE price variable. Whether or not an ILEC goes forward with additional investment in its network depends on the net present value of the cash flows expected from that investment. That is, to make that investment decision, the ILEC must examine the future stream of revenues and costs expected from the investment. In many instances, increased competition can constrain revenue growth relative to cost growth so much that, contrary to Dr. Willig's hypothesis, the actual result is a negative, not a positive, impact on ILEC investment. Hence, Dr. Willig's finding of increased, rather than reduced, investment could conceivably be the result of ILEC investment made to accommodate UNE-based competition (under the ILEC's Section 251 obligations) rather than defensive investment undertaken in response to competitive threats from CLECs.

108. The AT&T study's failure to distinguish between UNE-based CLEC competition and facilities-based CLEC competition has important implications for the findings of the study. It is possible that, under certain conditions, more CLEC competition can actually provide an incentive for ILECs to step up investment activity. Consider a scenario in which a CLEC introduces new value-adding services or improves existing services by deploying new technology or facilities. In order to remain competitive, ILECs would then have to respond by either duplicating the newer technology deployed by the CLEC or making innovations of their own. This scenario is

particularly likely with facilities-based competition which gives CLECs the flexibility to introduce new services or innovate, but not so with UNE or UNE-P based competition. The latter form of competition simply reduces cash flows available to ILECs, but does not present any new technology risk that would motivate those ILECs to invest more.

109. Dr. Willig hypothesizes that lower UNE prices likely increase competition from CLECs and, in turn, motivate ILECs to invest more. However, he fails to distinguish between the two distinct forms of CLEC competition. The increased CLEC competition that occurs in response to lower UNE prices is UNE-based competition. There are two reasons for this. First, keeping all else constant, lower UNE prices stimulate the demand for UNEs. Second, lower UNE prices make UNE-based competition relatively more attractive than facilities-based competition. But, it is facilities-based competition, not UNE-based competition, which gives ILECs reason to make additional non-entry accommodating investments. This critical distinction and tests for its implication are conspicuously absent from the AT&T study.
110. The AT&T study is deficient from a procedural standpoint as well. The first problem concerns the manner in which the study measures the ILEC investment variable. The problem here is that that variable, as defined in the study, fails to properly account for retirements. Investment in any given year is the difference between additions and retirements. Additions are simply the change in the Total Plant in Service from one year to the next. Retirements are a bit trickier. A standard accounting identity relates retirements to depreciation. Specifically, retirements are equal to the change in accumulated depreciation minus the depreciation and amortization expense. As a result, investment is the change in Total Plant in Service *minus* the change in accumulated depreciation *plus* the depreciation and amortization expense. Dr. Willig's investment variable leaves out the last component.¹⁰²

¹⁰² From an econometric standpoint, this introduces the problem of measurement error, albeit in the *dependent* variable and not in any *explanatory* variable. The consequences of such measurement error depend on the nature of the missing component. Assuming that that component is a random variable and has a distribution, the consequences are least severe if it is uncorrelated with any of the right-hand-side explanatory variables. In this

111. Another serious flaw in the AT&T study is the mismatch between the time period used for ILEC investment and the time period in which most of the independent variables were measured. In the study, investment data are for the period 1996-2000, while the UNE prices used are those most recently on record. There is no reason whatsoever to expect that UNE prices in 2000 would have had an impact on investment in 1996.
112. Finally, the AT&T study suffers from the same tendency to make causal inferences from a single-period cross-sectional study that also taints the two Z-Tel studies. For reasons documented above, findings of this nature are misleading and spurious.

scenario, the overall regression disturbance term would have an inflated variance (or even a heteroskedastic structure) and cause regression coefficients to be estimated *inefficiently*. Although Dr. Willig employs no correction for this possible problem (such as weighted least squares, heteroskedastic-consistent, or robust estimation), the consequence of that failure is not severe when the estimated regression coefficients are already statistically significant. The consequences are potentially more severe, however, if the missing component is correlated (even in large samples) with one or more explanatory variables. It can be shown then that failure to include that component in the regression (i.e., failure to measure investment correctly) can produce *biased* estimates of the regression coefficients. Depending on the form such correlation takes, the bias in the coefficient estimate can occur with respect to both the sign and the magnitude. For example, in this scenario, a putatively negative relationship between the dependent variable and an explanatory variable could actually turn into a positive relationship once the measurement error is corrected. In other words, such a correction could lead to an inference or conclusion that is precisely the opposite of that claimed from a model estimated with measurement error.

F. Claim: “Impairment analysis must be conducted according to specific guidelines proposed by the proponents of continued unbundling.”

1. Introduction

113. The *NPRM* asks for comment on several aspects of the Commission’s current unbundling policies and, in particular, invites suggestions for refinement of the manner in which the “necessary” and “impair” standards are being implemented. The Commission recognizes that change in the telecommunications market over the past three years may now provide specific opportunities for granting ILECs unbundling relief where CLEC impairment is no longer a concern. Beyond the minimum statutory conditions and some additional criteria for impairment, the Commission seeks comment on its interest in evaluating the unbundling requirement at a greater level of granularity than ever before. That additional granularity would review geographical, service, customer, and capacity characteristics of local competition in the impairment analysis for individual network elements.

2. Position of unbundling proponents

a. Allegiance

114. The CLECs respond to this call in various ways. Allegiance believes that:

... the Commission can simplify and clarify its approach to UNEs by expressly concluding in the instant proceeding that a requesting carrier is not impaired in the absence of a UNE *only* if the ILEC lacks market power in the provision of the UNE.¹⁰³

Allegiance asks the Commission to conduct a conventional market power analysis, based on market share, entry barriers, supply and demand elasticity and substitutability, size of resources of the firm, and control over underlying facilities. For this, it recommends first identifying “UNEs (i.e., the relevant product markets), based on what

¹⁰³ *Allegiance Comments*, at 6.

CLECs demand to provide services.”¹⁰⁴ To determine substitutability, Allegiance asks the Commission to employ its own five minimum statutory criteria for impairment analysis, namely, cost, timeliness, service quality, ubiquity, and operational issues. Allegiance also asks the Commission to consider aggregating network elements wherever those elements face similar levels of competition. While urging the use of demand conditions to determine the geographic scope of markets for its impairment analysis, Allegiance pushes the Commission to declare that the relevant geographic market is much larger than any market served by any individual ILEC:

Separate geographic markets should only be defined where different geographic areas demonstrate significantly different levels of ILEC market power in the provision of UNE inputs. Wherever possible, the Commission should use the entire country as the relevant geographic market. This approach is consistent with both the goals of promoting certainty in the marketplace and administrative ease.¹⁰⁵

115. With markets so defined, Allegiance proposes the following bright-line test for unbundling relief:

the Commission should not eliminate any UNE unless and until it can be demonstrated that four non-ILEC sources of supply (either in the form of non-ILEC self-deployment or non-ILEC wholesale offerings) have been deployed. Of course, all four non-ILEC sources must be available in the relevant geographic market.¹⁰⁶

Allegiance justifies this test by claiming that it is consistent with both the Department of Justice’s merger guidelines and predictions of game theory.¹⁰⁷

b. AT&T

116. AT&T responds by arguing that a high degree of granularity in the impairment analysis would result in access to UNEs being denied to impaired CLECs.¹⁰⁸ In contrast with

¹⁰⁴ *Id.*, at 6-7.

¹⁰⁵ *Id.*, at 8.

¹⁰⁶ *Id.*, at 9-10.

¹⁰⁷ *Id.*, at 10-11.

¹⁰⁸ *AT&T Comments*, at 97-102.

Allegiance and WorldCom, however, AT&T rejects the “mechanical application of a bright-line metric” in any impairment analysis.¹⁰⁹ Instead, AT&T cites the Commission’s experience with pricing flexibility triggers for interstate access services for which bright-line tests were employed.¹¹⁰ AT&T believes that experience confirmed that “crude trigger-proxies are not substitutes for actual analysis of the relevant factors.”¹¹¹ As an example, AT&T cites the case of using switch counts as a trigger for relief from switching unbundling. Instead of using such counts, AT&T recommends examining how CLECs actually use switches obtained as UNEs from ILECs, and whether CLECs enjoy sufficient economies of scale to justify deploying their own switches in place of those leased as UNEs.¹¹²

c. WorldCom

117. WorldCom’s position on the granularity sought by the Commission is that “impairment analysis must be based on meaningful ‘sophisticated and refined’ empirical market evidence.”¹¹³ WorldCom rejects the idea that isolated instances of CLECs serving customers out of their own facilities, or CLECs leasing collocation space, are sufficient evidence of the CLECs being able to reach and actually *serve* customers without impairment.¹¹⁴ WorldCom complains that CLECs lack information about ILEC facilities, interconnections and collocations, and CLEC purchases of UNEs, special access, and other services. Hence, WorldCom exhorts the Commission to conduct the more granular analysis only if it first compels the ILECs to reveal all the information necessary for that purpose.¹¹⁵

¹⁰⁹ *Id.*, at 120.

¹¹⁰ *Id.*, at 122.

¹¹¹ *Id.*

¹¹² *Id.*, at 121.

¹¹³ *WorldCom Comments*, at 62.

¹¹⁴ *Id.*

¹¹⁵ *Id.*

118. WorldCom also worries that the Commission's proposed geographic granularity "will place at risk the ability of carriers to serve mass market customers, for whom there will not be a facilities-based option in the foreseeable future."¹¹⁶ For this reason, WorldCom urges the Commission to adopt nationwide unbundling rules, i.e., not to restrict the geographic market scope for unbundling to anything less than the whole country.¹¹⁷ In WorldCom's opinion, the Commission, not the states, should have the final say on geographic scope.

119. Like Allegiance, WorldCom calls for bright-line unbundling rules to be applied up front when CLECs are making decisions about facilities deployment and market launch. In WorldCom's opinion, this would minimize the market uncertainty faced by CLECs and, hence, their entry costs.¹¹⁸ WorldCom also asks the Commission to ensure that the proposed granularity does not end up transferring control and the power to inhibit competition to ILECs, e.g., by being able to decide for which service UNEs should, or should not, be made available. Instead, WorldCom contends that the Commission should continue its periodic review of unbundling rules.¹¹⁹

d. Z-Tel

120. Unlike AT&T, WorldCom, and Allegiance, Z-Tel argues in favor of greater granularity in any impairment analysis, at least as far as service characteristics are concerned. For example, Z-Tel argues:

A cable operator, for example, may not need access to all of the elements of the platform, but the [1996] Act does not require Z-Tel to buy a cable company in order to compete in the mass market. Nor would the existence of a cable operator in a particular geographic market offering telephone service establish that a CLEC like Z-Tel would not be impaired without access to loops in that market.¹²⁰

¹¹⁶ *Id.*, at 63.

¹¹⁷ *Id.*

¹¹⁸ *Id.*

¹¹⁹ *Id.*, at 63-64.

¹²⁰ *Z-Tel Comments*, at 22-23.

Z-Tel also agrees with the granularity introduced in an impairment analysis by consideration of customer characteristics. To this end, it distinguishes large business from mass market customers and argues that, without unbundled local switching and UNE-P, it would be prevented from serving mass market customers on the desired scale and degree of ubiquity.¹²¹

121. Conceding that some day the presence of a secondary market for all of the wholesale facilities presently available as UNE-P would make unbundling unnecessary, Z-Tel asserts that cost should remain the single most important factor in any impairment analysis. Z-Tel believes that even small differences in cost could deny a competitor the ability to build up its market share and, consequently, force its exit from the market.¹²²

3. Reply

122. From an economic standpoint, some of the granularity sought by the Commission makes eminent sense.¹²³ Although, for present purposes, a full-blown market power analysis of the sort advocated by Allegiance is excessive and patently unnecessary,¹²⁴ there is merit in employing the proper market definition in any impairment analysis. UNEs and UNE-P serve one central purpose: facilitate competitive entry into local exchange markets without obliging new entrants to undertake duplicative and sunk network investments. However, once established as viable competitors within those local exchange markets, those competitors can have no further entitlement to ILECs' networks at subsidized prices. And, more significantly, circumstances *outside* the local exchange markets in which they compete should have no bearing on the CLECs' entitlement to UNEs or UNE-P *within* those markets.

¹²¹ *Id.*, at 33-34.

¹²² *Id.*, at 23-25.

¹²³ Based on a review of the *DC Circuit Order*, it would appear that a granular analysis is also correct from a legal standpoint.

¹²⁴ Allegiance's idea that how geographic markets are defined should depend on the extent of market power enjoyed by ILECs has it exactly backwards. A market power analysis *cannot* be a pre-condition for market definition. Rather, a market power analysis can only be conducted once the product and geographic scopes of the market have been defined.

123. As is now standard practice in the antitrust economics literature, market definition begins with the product and geographic scopes of a market. The most widely adopted definition of a market is that due to the *Merger Guidelines* of the U.S. Department of Justice, originally issued in 1984 and updated in 1992:

A market is defined as a product or group of products and a geographic area in which it is produced or sold such that a hypothetical profit-maximizing firm, not subject to price regulation, that was the only present and future producer or seller of those products in that area likely would impose at least a “small but significant and nontransitory” increase in price, assuming the terms of sale of all other products are held constant. A relevant market is a group of products and a geographic area that is no bigger than necessary to satisfy this test.

The Commission has itself adopted a similar definition on a number of occasions.¹²⁵ For example, it considers a product market to consist of consumers with similar demand patterns for a product and a geographic market to consist of an area where consumers face similar competitive conditions and have access to similar competitive alternatives. Arguably, in these conditions, a firm, acting on its own, would not be able to sustain a “small but nontransitory increase” in the price of its product.

124. As the *Merger Guidelines* further explains:

Market definition focuses solely on demand substitution factors, i.e., possible consumer responses. Supply substitution factors, i.e., possible production responses, are considered ... in the identification of firms that participate in the relevant market and the analysis of entry.

Allegiance uses these directions to identify UNEs (defined broadly) to define the product market, although it fails to note that all possible demand substitutes for UNEs and UNE-P (e.g., wholesale functionalities obtained through total service resale and alternative facilities available from non-ILEC sources) would also belong in that market. Allegiance overreaches considerably, however, by arguing that the entire

¹²⁵ See, e.g., FCC, *In re: Applications of Ameritech Corp., Transferor, and SBC Communications Inc., Transferee, for Consent to Transfer Control of Corporations Holding Commission Licenses and Lines Pursuant to Section 214 and 310(d) of the Communications Act and Parts 5, 22, 24, 25, 63, 90, 95, and 101 of the Commission's Rules*, CC Docket No. 98-141, Memorandum Opinion and Order, October 8, 1999, and FCC, *In the Matter of Access Charge Reform*, CC Docket No. 96-262, Fifth Report and Order and Further Notice of Proposed Rulemaking, August 27, 1999.

country should be taken to be the relevant geographic market. The pertinent question here is not whether UNEs are used throughout the country by CLECs, but whether there is a minimal geographic area within which a dominant supplier of the requisite wholesale facilities could impose a “small but significant and nontransitory” price increase on their users. In the context of local exchange competition, it is extremely doubtful that such a price increase could, in theory, be imposed on facilities-using competitors outside the local exchange market itself. That is, the focus should appropriately be on the availability of close substitutes to the ILEC’s network elements within the geographic area in which local exchange services are provided. Based on that principle, it becomes a matter of choosing the appropriate geographic contours of the local exchange “market.”

125. Possible candidates for the local exchange market from the geographic standpoint include the wire center, the town or metropolitan area, and the state (or suitably defined region). The wire center may be too disaggregated because any given wire center can be served by facilities obtained from outside it. The state or region may be at an inappropriately high level of aggregation because the availability of competitive alternatives (for loops, say) in one part of the state may not affect the pricing of loops being operated in another part of the state or region. *A fortiori*, this also rules out any geographic area larger than the state or region, e.g., the nation. A reasonable choice (and level of aggregation) is roughly the town or metropolitan area. In larger cities, local competitors compete to provide service within—and sometimes throughout—the metropolitan limits, and demand substitutes for the requisite wholesale facilities have to be found within those limits. For smaller towns, the appropriate geographic market is not necessarily each individual town but rather a group of contiguous towns within which customers can make local calls to each other. This, too, would approximate a larger metropolitan area, but something less than a state or region. All things considered, the metropolitan area (such as an MSA) is the most reasonable geographic market for impairment analysis. The important point here is that the scope of

availability of alternative wholesale facilities is inextricably linked to the scope of availability of retail local exchange services.¹²⁶

126. Related to the market's geographic scope is the meaning of "ubiquity," one of the five criteria designated by the Commission for its minimum statutory impairment analysis. The Commission believes that it is important to consider

... the extent to which the competitive LEC can serve customers ubiquitously using its own facilities or those acquired from third-party suppliers. [The Commission agrees] with competitive LECs that they may be impaired if lack of access to an unbundled element materially restricts the number or geographic scope of the customers they can serve.¹²⁷

The Commission concludes:

Although we acknowledge that not all competitive LECs will want to provide ubiquitous service across broad geographic areas, those that do will likely be disadvantaged vis-à-vis the incumbent, especially in the early stages of deployment, because the incumbent LECs still enjoy advantages of a ubiquitous network that provide them with economies of scale and the ability to reach all consumers in their service territories.¹²⁸

127. The danger inherent in this statement of the ubiquity criterion is that it is likely to exceed the bounds set by an appropriate market definition for purposes of an impairment analysis. As argued above, the geographic scope of the market for UNEs should be the local exchange market itself, most reasonably identified with a metropolitan area. Ubiquity, on the other hand, is linked to the geographic scope of *consumers served* by CLECs, which may well include *several* metropolitan areas and suitably defined rural communities within which all calling is local. Thus, the ubiquity criterion for determining impairment is likely to work at cross-purposes with the *Merger Guidelines*' approach to market definition for an impairment analysis. If the

¹²⁶ Of course, the geographic characteristics of the wholesale market for network services and the retail market for telecommunications services need not be the same. For example, a consideration in determining the geographic scope of the retail market is the size of the relevant media markets (television and newspaper coverage) since it is awkward and expensive to advertise retail service where it is not available. Those considerations do not apply to the wholesale market for network services.

¹²⁷ *UNE Remand Order*, ¶97. Footnote omitted.

¹²⁸ *Id.*, ¶98.

ubiquity standard were to prevail, the geographic market would be nothing less than everywhere that an *ILEC* provides service. That is, the Commission would place its emphasis on the *ILEC*'s *ubiquitous* network, as opposed to the various mutually exclusive local exchange markets in which the *ILEC* operates. That standard would clearly violate the economic meaning of "geographic scope of a market" as established by the *Merger Guidelines* and implemented by the Commission in the past. It is one thing to demand ubiquity within the local exchange market, but it is quite another to do so in a much wider sense that encompasses everywhere that an *ILEC* provides service. The only reasonable use of the ubiquity criterion, therefore, is one that is consistent with the geographic market definition for UNEs used to provide local exchange service.

128. Allegiance justifies its proposed bright-line test—that four non-*ILEC* sources of supply should exist before unbundling relief is granted—by citing an article on game theory published in 1973.¹²⁹ That article investigated the connection between the number of competitors and strategic cooperation among them under "specific institutional assumptions about the possibilities of cooperation."¹³⁰ Indeed, the model developed for this purpose was based on assumptions that are so unrealistic for the U.S. context, that it can yield little or no insight on the unbundling relief question. More specifically, that model's conclusions are unlikely ever to apply to the U.S. telecommunications industry or to the question of market power and the provision of UNEs.

129. For example, the model assumed that "firms are free to form enforceable (sic) quota cartels" and that, once such a cartel is formed, each cartel member is bound by the agreement that "the cartel members cannot exceed their quotas."¹³¹ The model also

¹²⁹ R. Selten, "A Simple Model of Imperfect Competition, where 4 are Few and 6 are Many," *International Journal of Game Theory*, 2(2), 1973, at 141-201.

¹³⁰ *Id.*, at 141.

¹³¹ *Id.*, at 142.

assumed that “formation of cartels is costless.”¹³² Models based on these assumptions do *not* describe (even simply) the real world. While they may be useful teaching tools, such models offer little or no insight to policy makers who are required to make decisions that affect real world firms. To his credit, the author himself realized that his “[was] an extremely simplified” analysis.¹³³

130. Its academic value notwithstanding, the article provides little information of any practical value regarding UNEs. While there are clearly alternative supply sources for most UNEs (see the *UNE Fact Report* and also below), it is inconceivable that a collusive cartel of the sort envisioned in the article would ever form in the U.S. Any such cartel would clearly violate the Sherman Anti-Trust Act. For that reason, the idea of ILECs and CLECs (the alternative sources of supply) marshaling a joint and, more importantly, clandestine effort to deprive consumers of competitive efficiencies stretches the imagination beyond repair.
131. Even more implausible is any assumption that each ILEC or CLEC supplier of UNEs would be willing to limit its output. The model relied upon by Allegiance completely ignores the consequences of any one cartel member (i.e., provider of switching services) failing or refusing to comply with the quota. At a practical level, the cartel members would surely have to share competitively sensitive information (such as about profits) in order to develop and assign the production quotas. Indeed, the cartel members may not even know their respective profit-maximizing output levels, making it very difficult to design quotas that are acceptable to all and, more generally, to stay engaged in their common cause and resist the temptation to cheat on the quotas. Such temptations are particularly attractive in local telecommunications markets where costs are predominantly fixed and the incremental costs of serving additional customers on a given network are small.

¹³² *Id.*, at 197

¹³³ *Id.*, at 142.

132. Finally, the model's predictions about strategic cooperation are unlikely to apply in conditions in which the costs and market shares of the ILECs and CLECs posited to form the cartel are moving in different directions. In fact, ILECs and CLECs may be expected to have very different ideas regarding the appropriate price level and the ultimate distribution of market shares. For all of these reasons, Allegiance's reliance on a quaint but irrelevant academic model of strategic cooperation is of no value for addressing the unbundling relief question. Regardless of whether there is any merit to the bright-line test itself that Allegiance has proposed, the game-theoretic support provided for it is simply untenable.
133. WorldCom's argument that selective unbundling relief in high density areas could jeopardize the ability of CLECs to serve mass market customers is a thinly-veiled effort to get the Commission to declare the entire country as the proper geographic market for UNEs. At present, unbundling relief has been granted only to the switching UNE needed to serve large business customers in the most densely populated zone of a top 50 MSA. However, as we noted before, to qualify for such relief, an ILEC must first make EELs available as well (thus enabling CLECs to reach customers without first having to collocate at ILEC switches).
134. In such restricted circumstances, how could CLECs possibly be impaired in serving mass market customers? CLECs have deployed large numbers of their own switches in the largest 100 MSAs. As Table 5 shows, CLECs serve, on average, a very large percentage of wire centers with one or more of their own switches in the largest 100 MSAs. That percentage is even larger in BellSouth-served MSAs that are ranked in the top 100 nationally. Also, on average, the percentages of ILEC-served access lines that are in wire centers served by one or more switches are themselves quite high. Those percentages are even higher for BellSouth-served MSAs ranked in the top 100 nationally.

Table 5. Average Reach of CLEC-Deployed Switches in RBOC-Served Wire Centers in Top 100 MSAs¹³⁴

Average for MSAs	Percentage of wire centers served by number of CLEC switches				Percentage of RBOC access lines in wire centers served by number of CLEC switches			
	1 or more	2 or more	3 or more	4 or more	1 or more	2 or more	3 or more	4 or more
National Top 100 MSAs								
Avg for Top 50 MSAs	84	74	67	63	92	85	73	68
Avg for MSAs ranked 51-100	73	60	48	41	94	88	81	77
BellSouth MSAs in Top 100 Nationally*								
Avg for all (20)	85	75	70	64	98	94	91	88
Avg for MSAs ranked in Top 50 (8)	88	86	72	68	98	96	94	92
Avg for MSAs ranked in 51-100 (12)	86	75	69	61	98	93	90	86

*Excludes the Tampa-St. Petersburg-Clearwater MSA in which BellSouth has a relatively small presence as an ILEC (i.e., serves only three small, non-urban wire centers).

¹³⁴ Source: *UNE Fact Report*, Appendix C.

Whether or not they succeed, CLECs clearly have the *opportunity* to address very large percentages of access lines in RBOC-served wire centers (especially so in BellSouth-served MSAs ranked in the top 100 nationally). This fact is certainly not lost on the CLECs who, through their own switch deployment decisions (and despite their capital market travails), have attempted to seize that opportunity. As for the argument that CLECs have not addressed the mass market in the top 100 MSAs, it is certainly not for the lack of an opportunity. As Table 6 shows, CLECs can, in principle, reach significant percentages of RBOC-served access lines used by *residential* customers; if they do not actually do so, the explanation may lie with their business decisions, not impairment.

Table 6. Average Reach of CLEC-Deployed Switches in RBOC-Served Wire Centers in Top 100 MSAs, By Type of Customer¹³⁵

Average for MSAs	Percentage of RBOC access lines in wire centers served by number of CLEC switches							
	1 or more		2 or more		3 or more		4 or more	
	Bus.	Res.	Bus.	Res.	Bus.	Res.	Bus.	Res.
National Top 100 MSAs								
Avg for Top 50 MSAs	97	97	94	92	92	88	90	85
Avg for MSAs ranked 51-100	94	91	88	83	77	72	73	65
BellSouth MSAs in Top 100 Nationally								
Avg for all (20)	99	97	96	93	95	90	92	86
Avg for MSAs ranked in Top 50 (8)	99	97	97	95	97	93	95	90
Avg for MSAs ranked in 51-100 (12)	99	97	96	92	93	88	90	84

*Excludes the Tampa-St. Petersburg-Clearwater MSA in which BellSouth has a relatively small presence as an ILEC (i.e., serves only three small, non-urban wire centers).

¹³⁵ Source: *UNE Fact Report*, Appendix C.

Table 6 responds, at a level of granularity desired by the Commission, to the question: are there differences in the ability of CLECs to use their own switches to serve different customer groups? As to whether differentiation by customer group (i.e., residential versus business) matters for an impairment analysis, the answer clearly appears to be “no.”

135. Once the UNE market has been properly defined, impairment should be tested by asking whether a *reasonably* efficient CLEC retains the ability to compete even without access to the UNE. This is a standard that Z-Tel seems to agree with:

[A granular impairment] analysis must include consideration of the market the CLEC seeks to serve and the nature of the services it seeks to provide, and it is entirely appropriate to consider the needs of a reasonably efficient competitor rather than a particularly inefficient competitor.¹³⁶

Therefore, no CLEC can be declared to be impaired, even for serving mass market customers, unless it can be established that the CLEC in question (1) is reasonably efficient (with the burden of proof being on that CLEC) and (2) has been denied the opportunity to serve the desired customers because the requisite network elements are not available from alternative sources. Tables 5 and 6 prove that, in the top 100 MSAs at least, no “denial of opportunity” problem can be responsible for CLECs failing to make inroads with mass market customers.¹³⁷

136. To summarize, the geographic granularity sought by the Commission can be helpful for defining the market within which impairment analysis should be conducted. As Section III.G explains in detail, there are sound reasons for distinguishing among service characteristics as well when conducting such an analysis. Granularity with respect to customer characteristics appears, as a practical matter, not to be of any policy consequence. As for the capacity of ILEC facilities, evidence shows that the demand

¹³⁶ Z-Tel Comments, at 23.

¹³⁷ This does not preclude the possibility that reasonably efficient CLECs have the opportunity to serve mass-market customers in MSAs ranked below the top 100 nationally as well. The data needed for that determination are not available.

for unbundled ILEC high capacity loops above the DS1 level is negligible.¹³⁸ This would make it unnecessary to conduct an impairment analysis of ILEC transport facilities that takes account of the capacity level of unbundled transport.

4. Empirical evidence

137. The *UNE Fact Report* makes a persuasive empirical case for the proposition that, in the three years since the last Commission review of unbundling rules, feasible intermodal and intramodal alternatives to ILEC network facilities have become available in many areas. This strengthens the case for significant relief from unbundling of facilities like switching and high-capacity transport facilities and, eventually, of the other network facilities as well. For example, as intermodal competition gains momentum, the “last mile” connection is becoming less dependent on ILEC-supplied voice grade loops. Switching, most of all ILEC facilities, now represents the least likely constraint for CLECs, given the widespread deployment of conventional circuit switches by competitors. In addition, packet switches and wireless switches, also widely deployed, have introduced powerful intermodal alternatives to the ILECs’ circuit switches. These facts are well documented in the *UNE Fact Report* (Section II).

138. This section presents additional empirical evidence at a greater level of granularity, namely, evidence specific to the nine states in the BellSouth region. The detail afforded by disaggregating to the individual RBOC and state level is intended to supplement the broad-brush picture painted by the *UNE Fact Report*.

a. Local Loops

139. In the last three years, CLECs have made considerable inroads into the supply of perhaps the most important network element of them all, the local voice grade loop. Taking full advantage of all three modes of competitive entry, and employing a mix of self-supplied and leased loops, CLECs now serve a higher fraction of end-user access lines than ever before. The Commission itself has documented the fact that the number

¹³⁸ *UNE Fact Report*, at IV-6.

of end-user access lines served by ILECs has declined for three straight years, even as CLECs have made offsetting gains.¹³⁹ This trend is reflected in the nine-state BellSouth region as well.

140. Tables 7 and 8 demonstrate the almost across-the-board decline in BellSouth-served access lines (both business and residential) between January 2000 and March 2002. The declines occurred in the vast majority of the 65 MSAs in the BellSouth region. All the access line gains that occurred were concentrated in the smallest MSAs and the non-MSA (rural) areas of the nine-state region. Despite these slightly offsetting gains, by March 2002, BellSouth had lost 9 percent of the business access lines and 6 percent of the residential access lines it served in January 2000. The losses were particularly pronounced in the 10 largest MSAs served by BellSouth: a 13 percent decline in business access lines and a 7 percent decline in residential access lines. Relative to the projected access line counts (at a 5 percent annual growth rate), the actual access line counts in March 2002 were down 22 percent (business) and 16 percent (residential), respectively.

¹³⁹ FCC, *Local Competition Report*, February 2002, Table 1.

Table 7. BellSouth-Served Business Access Lines by MSA Segments, January 2000-March 2002¹⁴⁰

MSA	January 2000	June 2000	December 2000	June 2001	December 2001	March 2002	Percent Change Jan'00- Mar'02
Atlanta, GA	1,061,685	1,055,741	1,040,860	1,008,416	952,310	931,082	-12%
Miami, FL	538,624	542,397	523,709	500,516	467,727	454,894	-16%
Fort Lauderdale, FL	363,934	359,833	348,488	337,207	310,497	306,918	-16%
West Palm Beach, FL	270,855	272,753	266,241	255,439	240,244	233,506	-14%
New Orleans, LA	267,246	265,647	264,681	262,922	255,952	251,621	-6%
Charlotte, NC	255,106	253,347	251,506	241,614	229,106	224,127	-12%
Nashville, TN	244,396	241,925	238,578	227,320	215,027	213,355	-13%
Jacksonville, FL	227,189	229,989	221,859	212,796	201,688	202,066	-11%
Raleigh-Durham NC	224,329	218,992	218,749	215,034	204,242	201,090	-10%
Orlando, FL	202,828	200,400	193,336	185,762	171,523	171,593	-15%
Top 10 BellSouth MSAs	3,656,192	3,641,024	3,568,007	3,447,026	3,248,316	3,190,252	-13%
5% Growth	3,656,192	3,747,597	3,839,002	3,934,977	4,030,952	4,081,339	12%
Percent actual March 2002 access line count is below projected access line count (at 5% growth)							-22%
Other 55 MSAs	3,179,966	3,219,308	3,209,853	3,120,855	3,019,331	2,971,530	-7%
3% Growth	3,179,966	3,227,665	3,324,495	3,324,495	3,373,626	3,398,928	7%
Percent actual March 2002 access line count is below projected access line count (at 3% growth)							-13%
Non-MSA Areas	920,042	937,483	946,344	942,957	940,065	931,343	1%
3% Growth	920,042	933,843	947,643	961,858	976,073	983,393	7%
Percent actual March 2002 access line count is below projected access line count (at 3% growth)							-5%
Total BellSouth	7,756,200	7,797,815	7,724,204	7,510,838	7,207,712	7,093,125	-9%

¹⁴⁰ Source: BellSouth. The list of the top 10 BellSouth-served MSAs excludes the Tampa-St. Petersburg-Clearwater MSA in which BellSouth has only a relatively small presence.

Table 8. BellSouth-Served Residential Access Lines by MSA Segments, January 2000-March 2002¹⁴¹

MSA	January 2000	June 2000	December 2000	June 2001	December 2001	March 2002	Percent Change Jan'00- Mar'02
Atlanta, GA	1,814,526	1,817,918	1,796,726	1,765,308	1,688,614	1,668,024	-8%
Miami, FL	999,148	1,005,848	991,414	967,975	932,061	890,974	-11%
Fort Lauderdale, FL	841,346	840,443	829,917	798,934	765,200	733,179	-13%
West Palm Beach, FL	663,004	663,891	672,836	665,423	659,505	648,902	-2%
New Orleans, LA	563,338	564,174	558,245	552,566	544,998	543,921	-3%
Nashville, TN	525,371	526,099	521,755	515,290	510,175	507,353	-3%
Jacksonville, FL	478,251	478,271	467,577	461,060	455,349	450,225	-6%
Charlotte, NC	469,323	472,443	471,281	469,064	461,628	458,502	-2%
Memphis, TN	430,287	432,344	424,785	418,876	411,897	411,190	-4%
Orlando, FL	370,374	374,712	377,107	374,708	367,593	364,745	-2%
Top 10 BellSouth MSAs	7,154,968	7,176,143	7,111,643	6,989,204	6,797,020	6,677,015	-7%
5% Growth	7,154,968	7,333,842	7,512,716	7,700,534	7,888,352	7,986,957	12%
Percent actual March 2002 access line count is below projected access line count (at 5% growth)							-16%
Other 55 MSAs	6,982,122	7,006,256	6,984,985	6,943,333	6,866,669	6,857,119	-2%
3% Growth	6,982,122	7,086,854	7,191,586	7,299,459	7,407,333	7,462,888	7%
Percent actual March 2002 access line count is below projected access line count (at 3% growth)							-8%
Non-MSA Areas	2,540,899	2,566,149	2,563,292	2,570,225	2,550,156	2,563,929	1%
3% Growth	2,540,899	2,579,012	2,617,126	2,656,383	2,695,640	2,715,857	7%
Percent actual March 2002 access line count is below projected access line count (at 3% growth)							-6%
Total BellSouth	16,677,989	16,748,548	16,659,920	16,502,762	16,213,845	16,098,063	-3%

¹⁴¹ Source: BellSouth. The list of the top 10 BellSouth-served MSAs excludes the Tampa-St. Petersburg-Clearwater MSA in which BellSouth has only a relatively small presence (i.e., serves only three small, non-urban wire centers).

Table 9. CLEC Penetration and Ported Numbers in BellSouth Region, November 2001¹⁴²

MSA Segment	CLECs with Ported Numbers			CLEC-Ported Numbers		
	Total	Average per MSA	Average per wire center	Total	Average per MSA	Average per wire center
All BellSouth MSAs (64)	5,985	94	6	2,241,707	35,027	2,318
BellSouth MSAs in Top 50 (9)	3,113	346	10	1,240,781	137,865	4,109
BellSouth MSAs in Top 100 (21)	4,753	226	8	1,842,736	87,749	3,199
BellSouth MSAs ranked in 51-100 (12)	1,640	137	6	601,955	50,163	2,197
BellSouth MSAs ranked in 101-150 (12)	659	55	4	198,903	16,575	1,117
BellSouth MSAs ranked in 151-200 (12)	251	21	3	95,613	7,968	1,051
BellSouth MSAs ranked in 201-250 (6)	156	26	3	70,558	11,760	1,140
BellSouth MSAs ranked in 251-300 (9)	106	12	2	21,487	2,387	467
BellSouth MSAs ranked in 301-350 (4)	60	15	2	12,410	3,103	460

¹⁴² Source: BellSouth. As in Table 2, CLECs that operate in multiple states (and multiple wire centers) are counted a multiple number of times. See *supra*, fn. 34.

Table 9 presents two views of the penetration accomplished by CLECs in 64 MSAs (and 967 wire centers) of the nine-state BellSouth region.¹⁴³ First, it shows the number of CLECs with ported numbers operating in various MSA segments. Next, it shows the number of CLEC-ported numbers in various MSA segments. As expected, the greatest penetration has occurred in the 21 BellSouth MSAs (and 576 wire centers) that are ranked among the top 100 MSAs nationally. By another measure, namely, the number of facilities-based and other CLEC-served access lines (obtained from the E911 database) as of November 2001, CLECs accounted for 2,164,897 access lines in the 64 MSAs of the BellSouth region. Combining information from Tables 7, 8, and 9, this amounts to 9.8 percent of the access lines in the 64 MSAs in the BellSouth region.

141. Another way to understand the manner in which CLECs have chosen to enter local exchange markets in BellSouth's MSAs is through the Lorenz Curve and the Gini Coefficient.¹⁴⁴ Figures 1 and 2, based on data provided by BellSouth, provide that

¹⁴³ In Table 9 and subsequent tables and discussion, reference is made to all but one of the 65 MSAs in the BellSouth region. The Auburn, AL MSA is not included because of data unavailability.

¹⁴⁴ Originally developed to measure inequalities in the distribution of household incomes, the Lorenz Curve and the Gini Coefficient have been useful for depicting other forms of "inequalities" or skewness in distributions, e.g., in the concentration of sales revenue among a few large firms in an industry in which several firms co-exist, or the Internet usage of households that differ widely in their propensity to "go online." The Lorenz Curve compares two cumulative percentages: those of (1) the observation unit, e.g., households, firms, or, as in the present case, BellSouth MSAs, and (2) the measured variable of interest, e.g., income, sales revenue, or, as in the present case, various characteristics of competitors (CLECs) or competitive alternatives (fiber-based collocators). A graph of these two cumulative percentages depicts whether or not a disproportionately *small* proportion of the observation unit accounts for a disproportionately *large* proportion of the measured variable. If that graph is a 45 degree line, then there is no "inequality," i.e., the observation unit and the measured variable move or grow in the same proportion throughout. A Lorenz Curve that lies entirely below the 45 degree line signifies that some inequality is present. The more deeply bowed that curve is relative to the 45 degree line of "no inequality," the greater is the inequality present. A single-valued numerical index that captures the same information—and provides a means to compare different Lorenz curves and their underlying distributions—is the Gini Coefficient. This index lies in the range between 0 ("no inequality") to 1 ("perfect inequality"), and represents the area between the Lorenz curve and the 45 degree line as a proportion of the total area under the 45 degree line. Thus, smaller values of the Gini coefficient imply less inequality or skewness in observed distributions and, conversely, larger values imply greater inequality or skewness. The seminal work on the Lorenz Curve was by Max O. Lorenz, "Methods for Measuring the Concentration of Wealth," *American Statistical Association*, 9, 1905, at 209-219, and that on the Gini Coefficient by Corrado Gini, "Variabilità e Mutabilità," 1912, reprinted in E. Pizetti and T. Salvemini (eds.), *Memorie di Metodologia Statistica*, Rome: Libreria Eredi Virgilio Veschi, 1955. For modern work popularizing these measures, see Amartya K. Sen, *On Economic Inequality*, Oxford, U.K.: Clarendon Press, 1973, and Anthony B. Atkinson, "On the Measurement of Inequality," *Journal of Economic Theory*, 2, 1970, at 244-263.

information about CLECs that have ported numbers and the number of CLEC-porting numbers within BellSouth's 64 MSAs.

Figure 1. Lorenz Curve and Gini Coefficient for CLECs with Ported Numbers in BellSouth's MSAs

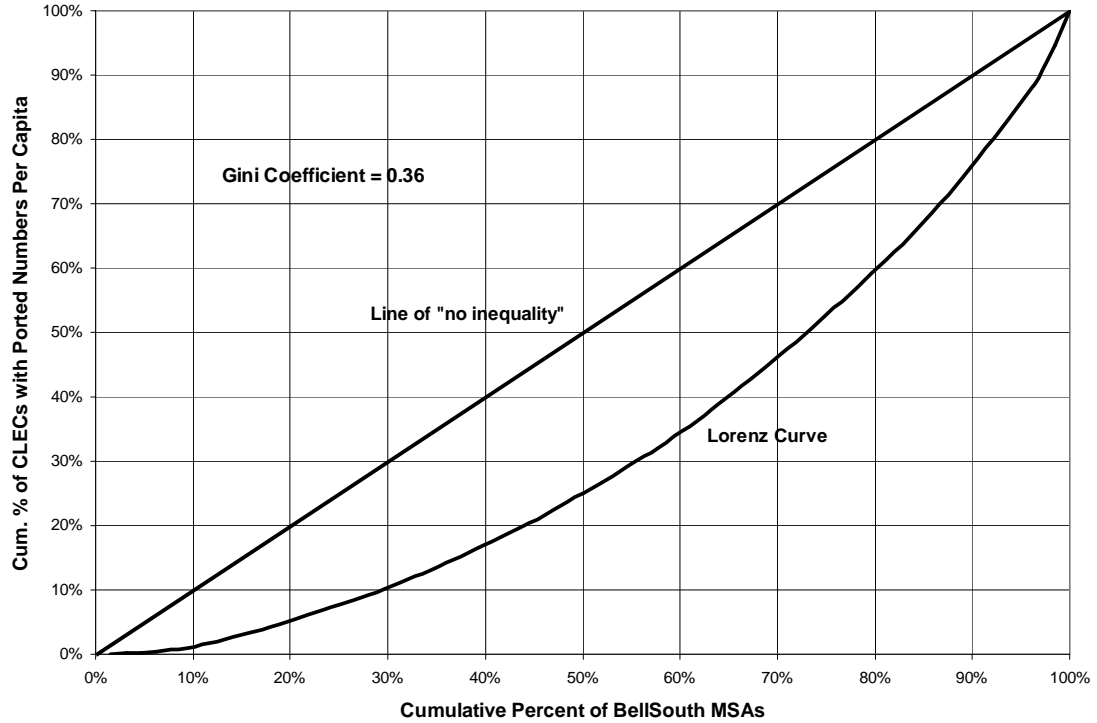
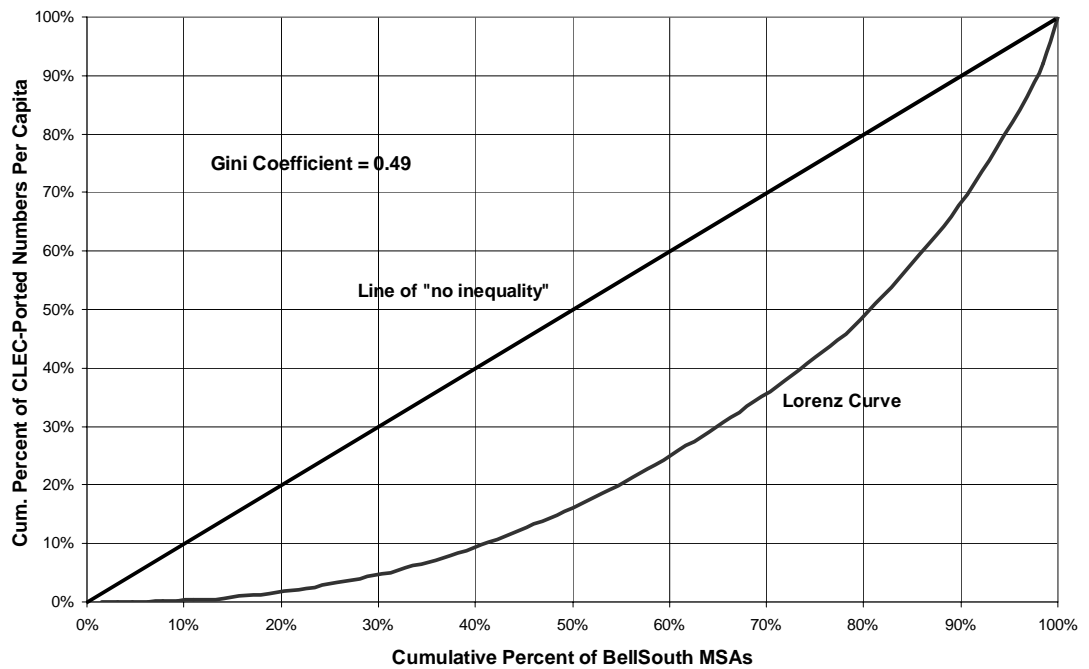


Figure 2. Lorenz Curve and Gini Coefficient for CLEC-Ported Numbers Per Capita in BellSouth's MSAs



142. Figures 1 and 2 demonstrate the following about CLEC entry into BellSouth's 64 MSAs. First, Figure 1 shows the Lorenz Curve that relates the number of CLECs per capita (i.e., per resident of an MSA) to the number of BellSouth MSAs. More precisely, it is the graph of the cumulative percentage of CLECs per capita against the cumulative percentage of BellSouth MSAs.¹⁴⁵ By construction, the MSAs (and the corresponding CLEC counts within them) are first sorted from smallest to largest. Thus, Figure 1 shows that the *bottom* 30 percent of BellSouth MSAs account for only about 10 percent of the CLECs that have entered, while the *top* 30 percent of BellSouth MSAs account for more than half the CLECs that have entered. This confirms that CLECs have concentrated their entry disproportionately more on the largest BellSouth MSAs *even after adjusting for MSA size differences*, a trend that is likely to be true nationwide as well.
143. Similarly, Figure 2 shows the Lorenz Curve that relates the count of CLEC-ported telephone numbers (again, expressed per capita) in BellSouth's MSAs to the number of BellSouth MSAs. Even visually, the relatively greater "inequality" in this distribution is obvious: the *bottom* 40 percent of BellSouth MSAs account for only 10 percent of CLEC-ported numbers, while the *top* 20 percent of those MSAs account for more than half of the CLEC-ported numbers. This is clear evidence that, regardless of how many have entered various BellSouth MSAs, CLECs have more aggressively (or successfully) deployed access lines in the very largest MSAs (where the ratio of business to residential customers is likely to be the highest).
144. The Gini Coefficient values in Figures 1 and 2 permit a more direct comparison. As is evident from the Lorenz Curves themselves, with a Gini Coefficient of 0.49, there is seemingly greater skewness in the distribution of CLEC-ported numbers by BellSouth

¹⁴⁵ The observation unit here is the BellSouth MSA, while the measured variable of interest is the number of CLECs in each BellSouth MSA divided by the population of that MSA. This *per capita* expression eliminates the effect of scale, i.e., the fact that the population (and, possibly, the number of access lines served) rises with the size of the MSA. Thus, the "intensity" of CLEC entry in an MSA is measured by the number of CLECs *per resident person* rather than simply by the number of CLECs in that MSA. All MSA population data are taken from the *Statistical Abstract of the United States*, the latest edition of which is available from <http://www.census.gov/prod/2002pubs/01statab/stat-ab01.html>.

MSA than in the distribution of CLECs themselves (for which the Gini Coefficient is only 0.36). These Gini Coefficient values confirm the general finding that CLECs have competed for subscribers more intensely in the largest MSAs in the BellSouth region. It is reasonable to believe—although no formal test is conducted here—that the same would also be true for the nation as a whole. We conclude that there is a disproportionately high volume of CLEC-ported numbers per capita in the top 30 percent of BellSouth's MSAs, i.e., approximately those ranked in the top 100 nationally, indicating little or no impairment for voice grade loops in those markets.

b. Circuit Switching

145. Of all the UNEs, CLECs have succeeded most in developing feasible alternatives for ILEC switching facilities. Technological advances in switch manufacturing have made possible digital switches that are more modular, scalable, and flexible than ever before. Without being bound by the legacy network architecture and central office locations of the ILEC networks, CLECs have deployed their switches strategically. Collocation, EELs, and greatly improved hot-cut performance have made it possible for CLECs to gain greater access to ILEC customers.¹⁴⁶ In addition, CLECs have installed data (packet) switches, and wireless switches that provide intermodal alternatives as well. In fact, the data show that unbundling relief provisions like the switching carve-out can now be extended beyond Density Zone One in the top 50 MSAs where ILEC-provided EELs are available. That is because CLECs appear to have deployed voice switches just as aggressively in the BellSouth MSAs that are ranked between 51 and 100 nationally as they have in those ranked in the top 50 nationally. This finding is confirmed by Table 10 and the bottom half of Table 5.

¹⁴⁶ As Appendix H of the *UNE Fact Report* shows, BellSouth can claim legitimately that its hot-cut performance between February and December 2001 was consistently at or near 100 percent *in all of its states*.

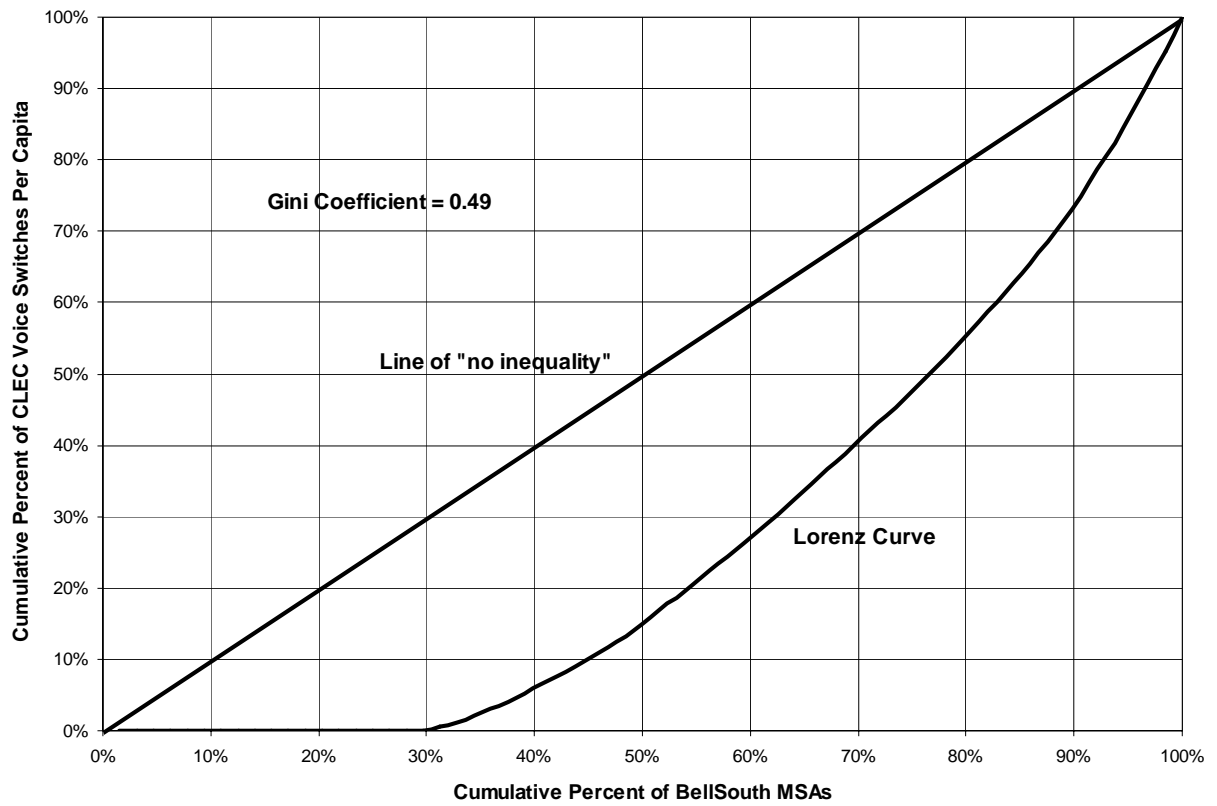
Table 10. Reach of CLEC Switches in BellSouth MSAs Ranked in the Top 100 Nationally¹⁴⁷

MSA Rank	BellSouth MSA	Percentage of wire centers served by number of CLEC switches				Percentage of RBOC access lines in wire centers served by number of CLEC switches			
		1 or more	2 or more	3 or more	4 or more	1 or more	2 or more	3 or more	4 or more
8	Atlanta	80	73	67	66	99	97	94	94
21	Tampa-St. Petersburg-Clearwater	33	0	0	0	47	0	0	0
24	Miami	86	86	83	81	99	99	98	97
33	Orlando	82	82	82	73	98	98	98	88
37	Fort Lauderdale	100	100	100	100	100	100	100	100
42	Charlotte-Gastonia-Rock Hill	75	64	58	56	94	89	86	84
44	New Orleans	83	52	52	48	98	92	92	90
46	Greensboro-Winston Salem-High Point	88	83	71	63	97	97	94	90
47	Nashville	73	68	61	59	95	93	91	90
53	Raleigh-Durham-Chapel Hill	94	88	88	81	98	97	97	95
54	Memphis	84	72	64	60	99	94	88	87
56	Jacksonville	88	85	76	68	98	97	92	87
59	West Palm Beach-Boca Raton	94	88	88	88	100	98	98	98
61	Louisville	85	85	80	80	99	99	97	97
64	Greenville-Spartanburg-Anderson	83	55	43	35	97	84	78	70
66	Birmingham	90	68	65	61	97	87	85	83
78	Knoxville	68	59	50	41	92	89	83	77
86	Baton Rouge	85	65	60	45	97	91	90	80
93	Charleston-North Charleston	86	86	79	64	97	97	96	92
96	Mobile	81	63	56	50	97	83	77	71
99	Columbia	93	87	73	53	99	96	93	89

¹⁴⁷ Source: *UNE Fact Report*, Appendix C. Although Tampa-St. Petersburg-Clearwater is the second largest MSA within the BellSouth Region, Verizon—not BellSouth—has by far the largest ILEC presence in that MSA. BellSouth operates as an ILEC in only three small, non-urban wire centers in this MSA. The percentages pertaining to CLEC activity in this MSA (in the table above) are only for these few BellSouth-served wire centers, not all *ILEC*-served wire centers.

146. That CLEC deployment of voice switches in the 12 BellSouth MSAs that are among those ranked 51-100 nationally has become broadly comparable to the deployment of those switches in the 9 BellSouth MSAs ranked in the top 50 nationally is no longer disputable. Tables 5 and 10 clearly demonstrate that the reach of CLEC switches in the former segment is, in many cases, on par with or superior to that in the latter segment. Currently, 76 percent of CLEC switches in the BellSouth region are deployed in the 21 BellSouth MSAs (approximately 33 percent of all BellSouth MSAs) ranked in the top 100 nationally. The Lorenz Curve and Gini Coefficient for CLEC voice switches per capita further confirm the fact that CLEC competitive activity through switch deployment has become uniformly intense throughout the BellSouth MSAs ranked in the top 100 nationally, and is no longer confined to those ranked in the top 50 nationally. See Figure 3, based on data provided by BellSouth.

Figure 3. Lorenz Curve and Gini Coefficient of CLEC Voice Switches Per Capita in BellSouth's MSAs



147. It is readily apparent that CLEC voice switch deployment per capita is negligible for the bottom 30 percent of BellSouth's MSAs. This reflects the fact that CLECs have deployed only 11 voice switches (out of 271 in the BellSouth region) in the 19 MSAs (roughly 30 percent of all BellSouth MSAs) that are ranked 200 and above nationally. A Gini Coefficient of 0.49 confirms the steep climb in the Lorenz Curve for the higher ranked MSAs in the BellSouth region. Note, however, that the top 30 percent or so of BellSouth's MSAs account for approximately 60 percent of CLEC voice switches *even after adjusting for MSA size differences*. Hence, by this alternative indicator as well, there appears no reason to regard competitive CLEC voice switch deployment to be confined to the BellSouth MSAs that rank in the top 50 nationally.
148. Yet another way to understand the reach of CLEC switches within the BellSouth region is to cross-tabulate the distribution of CLEC switches against three specific indicators of competitive activity: (1) the percentage of BellSouth wire centers where CLECs have ported numbers, (2) the percentage of BellSouth-served access lines in the wire centers where CLECs have ported numbers, and (3) the rate exchange areas in which CLECs have acquired NXX codes. See Table 11.

Table 11. Various Indicators of CLEC Activity, By Distribution of CLEC Switches in BellSouth's Wire Centers¹⁴⁸

Indicator of Competitive Activity	Number of CLEC switches			
	1 or more	2 or more	3 or more	4 or more
Percentage of BellSouth wire centers in which CLECs have ported numbers	58	39	32	28
Percentage of BellSouth-served access lines in the wire centers in which CLECs have ported numbers	91	80	74	67
Percentage of total BellSouth-served business access lines in the wire centers in which CLECs have ported numbers	94	85	79	73
Percentage of total BellSouth-served residential access lines in the wire centers in which CLECs have ported numbers	90	79	71	65
Percentage of rate centers in which CLECs have acquired NXX codes	64	41	29	19

¹⁴⁸ Source: BellSouth.

149. CLECs have also attempted to reach BellSouth's (or any ILEC's) customers through collocation arrangements. Although collocation does not guarantee success to a CLEC at converting a BellSouth customer to one of its own, it does provide the competitive opportunity guaranteed by the 1996 Act. In addition, the provision of loop-transport combinations like EELs ensure that, *even without collocation*, CLECs have the opportunity to reach BellSouth's customers from their own switches. If anything, therefore, statistics about collocation are likely to understate CLECs' ability to serve BellSouth's customers from their own switches. Tables 12-13 demonstrate how collocation has served the CLECs' ends in this regard, particularly in BellSouth's largest 21 MSAs (which are ranked in the top 100 nationally).

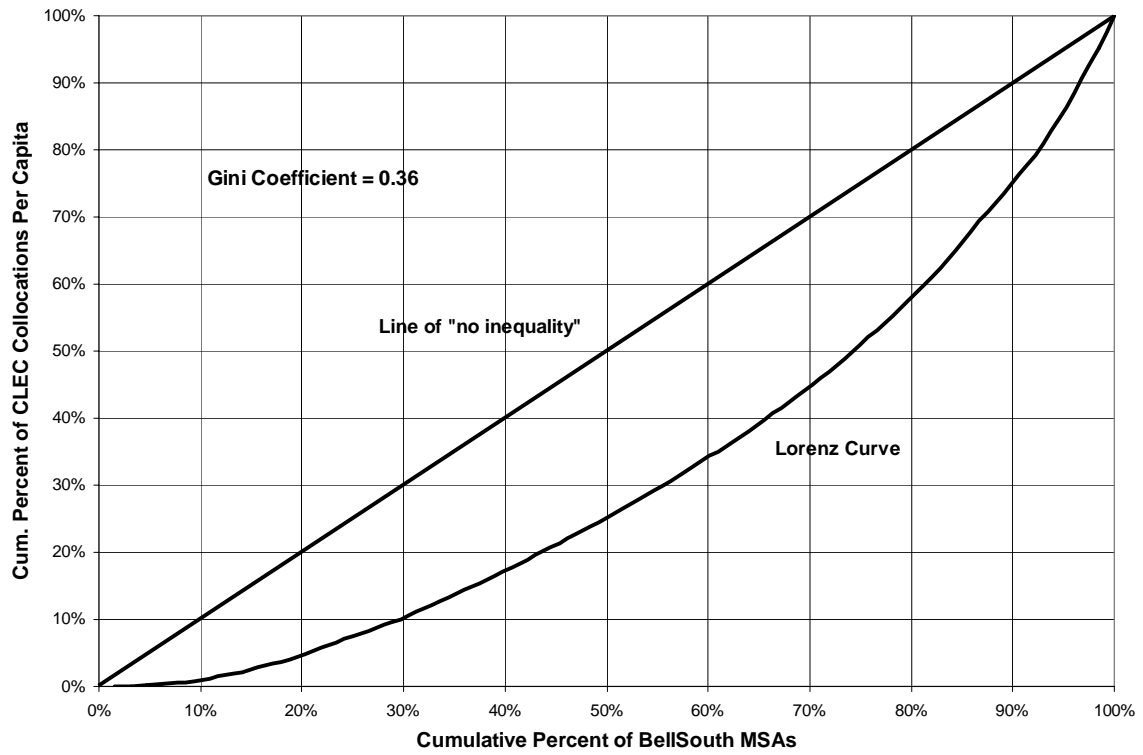
Table 12. Distribution (Total, Per MSA, and Per Wire Center) of Collocation Arrangements in BellSouth's MSAs¹⁴⁹

Collocation Arrangements in	Total	Per MSA	Per Wire Center
All BellSouth MSAs (64)	8,636	135	9
BellSouth MSAs in national top 50 (9)	3,557	395	12
BellSouth MSAs in national top 100 (21)	6,286	299	11
BellSouth's MSAs in national top 100 relative to all BellSouth MSAs	73%		
BellSouth MSAs ranked 51-100 nationally (12)	2,729	227	10
BellSouth MSAs ranked 101-150 nationally (12)	1,186	99	7
BellSouth MSAs ranked 151-200 nationally (12)	518	43	6
BellSouth MSAs ranked 201-250 nationally (6)	276	46	6
BellSouth MSAs ranked 251-300 nationally (9)	236	26	5
BellSouth MSAs ranked above 301 nationally (4)	134	34	5

¹⁴⁹ Source: BellSouth.

150. As expected, Table 12 shows that the number of collocations per MSA (and per wire center) rises with MSA size. Moreover, 73 percent of all collocation arrangements are in the 21 BellSouth MSAs ranked in the top 100 nationally. While this may show relatively greater concentrations of collocation arrangements in the largest MSAs, the effect may be exaggerated without an adjustment for differences in MSA size. Again, resorting to the Lorenz Curve and the Gini Coefficient helps to make that adjustment, as in Figure 4.
151. Although Figure 4 shows that the top 30 percent of BellSouth's MSAs (corresponding roughly to the MSAs ranked in the top 100 nationally) account for roughly 55 percent of all CLEC collocations in the BellSouth region, the degree of "inequality" is less severe than for some of the other indicators of competitive activity. A Gini coefficient of only 0.36 implies that CLEC collocations that have occurred in the smaller BellSouth MSAs, after adjusting for MSA size differences, are not all that disproportionately less than what has occurred in the larger BellSouth MSAs. In other words, CLECs have sought collocation as a strategy for reaching BellSouth's customers almost uniformly throughout the BellSouth region.

Figure 4. Lorenz Curve and Gini Coefficient for CLEC Collocation Arrangements Per Capita in BellSouth's MSAs



152. Table 13 shows just how much collocation activity has picked up since 1998 and the extent to which CLECs using collocation can now reach BellSouth's customers, both business and residential. In addition, alternative collocation providers ("ACPs") have now established their presence in the largest MSAs, thus giving the CLECs that operate in those MSAs an option whose full value is yet to be determined. These ACPs now operate in all nine of the BellSouth MSAs ranked in the top 50 nationally.¹⁵⁰ Each of these MSAs has at least one ACP, and Atlanta and Miami lead the count with eight and seven, respectively. E-COLO.com, the leading ACP in the nation, has a presence in all nine MSAs.

¹⁵⁰ *UNE Fact Report*, Appendix G.

Table 13. Collocation Arrangements in the BellSouth Region¹⁵¹

Collocation Statistics	
Collocation arrangements in 1998	870
Collocation arrangements in 2001	4,700
Percentage of BellSouth's access lines in wire centers with collocation	80
Percentage of BellSouth's residential access lines in wire centers with collocation	77
Percentage of BellSouth's business access lines in wire centers with collocation	87

¹⁵¹ Source: BellSouth.

153. Although the evidence presented above concerns circuit (voice-only) switches deployed by CLECs in the BellSouth region, some similarities also appear in the pattern of CLEC deployment of packet (voice and data) switches in the region. We conclude that CLEC deployment of voice switches and use of collocation to reach customers in BellSouth's service region permeates at least the BellSouth MSAs ranked in the top 100 nationally and, possibly, even the smaller and less densely-populated MSAs served by BellSouth. The flexibility with which modern switches can be located and operated virtually ensures this. There is, thus, little or no impairment for circuit switching for almost the entire BellSouth region.

c. Inter-Office Transport

154. The three years between 1998 and 2001 saw significant buildout of CLEC networks and competitive sources of transport facilities in the BellSouth region. Just as the *UNE Fact Report* established these facts for the nation as a whole, the statistics assembled below in Tables 14-17 and Figure 5 support the belief that CLECs are not likely to be constrained (or impaired) today in their use of inter-office transport facilities within the BellSouth region.

155. The competitive alternatives for ILEC-supplied inter-office transport come in three forms: (1) fiber-based collocation, (2) CLEC-supplied fiber, and (3) wholesale supply of fiber. The big picture with respect to the development of these alternatives is presented in Section III of the *UNE Fact Report*. In what follows, data on these competitive alternatives are presented for the BellSouth region.

156. There are 1,018 fiber-based collocators in the BellSouth region, i.e., on average, 16 per MSA and 1 per wire center. 87 percent of these fiber-based collocators are located in the 21 BellSouth MSAs that are ranked in the top 100 nationally. Table 14 shows the distribution of fiber-based collocators in the BellSouth region. A more granular cast of the data reveals that, of BellSouth's 64 MSAs, 43 (or, about 67 percent) have fiber-based collocators. Table 15 shows the wire center distribution of fiber-based collocators in those 43 MSAs.

Table 14. Distribution (Total, Per MSA, and Per Wire Center) of Fiber-Based Collocators in the BellSouth Region¹⁵²

Fiber-Based Collocators in	Total	Per MSA	Per Wire Center
All BellSouth MSAs (64)	1,018	16	1
BellSouth MSAs in national top 50 (9)	607	67	2
BellSouth MSAs in national top 100 (21)	885	42	2
BellSouth's MSAs in national top 100 relative to all BellSouth MSAs	87%		
BellSouth MSAs ranked 51-100 nationally (12)	278	23	1
BellSouth MSAs ranked 101-150 nationally (12)	93	8	0.5
BellSouth MSAs ranked 151-200 nationally (12)	25	2	<0.5
BellSouth MSAs ranked 201-250 nationally (6)	9	2	<0.5
BellSouth MSAs ranked 251-300 nationally (9)	4	<0.5	<0.5
BellSouth MSAs ranked above 301 nationally (4)	2	1	<0.5

¹⁵² Source: BellSouth.

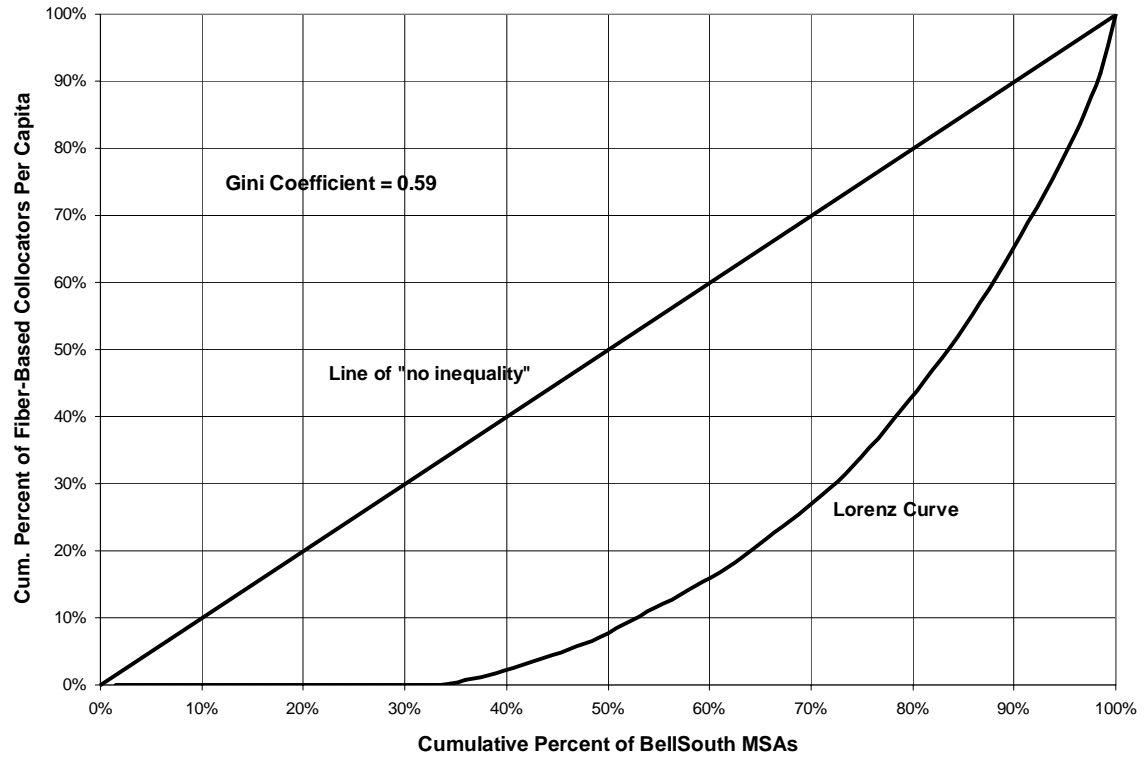
Table 15. Fiber-Based Collocators in 43 BellSouth MSAs¹⁵³

MSA	Wire Centers with Fiber-Based Collocators	Percentage of All Wire Centers in MSA
Atlanta	25	29
Tampa-St. Petersburg-Clearwater	1	33
Miami	28	76
Orlando	8	67
Fort Lauderdale	18	95
Charlotte-Gastonia-Rock Hill	15	48
New Orleans	13	28
Greensboro-Winston Salem-High Point	8	33
Nashville	16	36
Raleigh-Durham-Chapel Hill	9	56
Memphis	13	52
Jacksonville	15	44
West Palm Beach-Boca Raton	14	82
Louisville	8	40
Greenville-Spartanburg-Anderson	5	13
Birmingham	7	23
Knoxville	6	27
Baton Rouge	7	35
Charleston-North Charleston	2	11
Mobile	4	25
Columbia	5	33
Melbourne-Titusville-Palm Bay	5	56
Daytona Beach	5	29
Augusta-Aiken	3	18
Chattanooga	3	20
Jackson, MS	6	30
Pensacola	3	21
Shreveport-Bossier City	5	29
Lafayette	3	13
Biloxi-Gulf Port-Pascagoula	4	44
Huntsville	3	25
Hickory-Morganton-Lenoir	1	7
Montgomery	3	25
Savannah	3	38
Columbus	1	8
Wilmington	2	20
Gainesville	1	17
Asheville	1	10
Lake Charles	3	43
Panama City	2	40
Monroe	2	40
Hattiesburg	2	29
Goldsboro	2	50

¹⁵³ Source: BellSouth.

157. The distribution of fiber-based collocators in the BellSouth region can also be understood by use of the Lorenz curve and the Gini Coefficient, both of which adjust for differences in MSA size. See Figure 5, based on data provided by BellSouth.

Figure 5. Lorenz Curve and Gini Coefficient for Fiber-Based Collocators Per Capita in BellSouth Region



158. From Figure 5, it is readily apparent that the distribution of fiber-based collocators per capita in the BellSouth region is skewed to a high degree (a fact confirmed by a Gini Coefficient value of 0.59). In fact, approximately the smallest third of all BellSouth MSAs account for a negligible proportion of fiber-based collocators per capita. In contrast, nearly 75 percent of fiber-based collocators per capita are present in the largest third of all BellSouth MSAs. This is significant because it provides yet another indication of the market entry and competitive strategies of CLECs who evidently have targeted the largest MSAs most intensely. Because the measures reported here adjust for MSA size differences, this finding cannot be attributed simply to the fact that a larger MSA is likely to have proportionately more point-to-point routes and, hence, greater self-supply of the requisite facilities. Rather, it is reasonable to infer that those largest MSAs are more “target rich” for the CLECs, e.g., are more densely populated and offer greater economies of density, and have higher proportions of the most lucrative customers than smaller MSAs.¹⁵⁴ We conclude that fiber-based collocation activity per capita is particularly intense—indicating no impairment—in roughly the top third of BellSouth’s MSAs, or those ranked in the top 100 nationally.
159. Finally, Table 16 cross-tabulates the availability of competitive inter-office transport within the BellSouth region with the distribution of CLEC fiber-based collocation nodes within that region.

¹⁵⁴ Larger MSAs do not necessarily have the highest proportions of business access lines or customers. Rather, they may have customers on whom the greatest revenues or profit margins are earned.

Table 16. Availability of Competitive Inter-Office Transport in BellSouth Region¹⁵⁵

Availability of Competitive Inter-Office Transport	Number of Fiber-Based CLEC Collocation Nodes			
	1 or more	2 or more	3 or more	4 or more
Percentage of wire centers served by competitive inter-office transport (BellSouth region)	19	13	9	6
Percentage of all access lines served by competitive inter-office transport (BellSouth region)	53	43	34	26
Percentage of business access lines served by competitive inter-office transport (BellSouth region)	62	52	43	34
Percentage of wire centers served by competitive inter-office transport (25 largest BellSouth MSAs)	37	27	20	14
Percentage of all access lines served by competitive inter-office transport (25 largest BellSouth MSAs)	69	57	47	35
Percentage of BellSouth wire centers with 5,000 or more business lines served by competitive inter-office transport	66	51	37	25
Percentage of BellSouth wire centers with 10,000 or more business lines served by competitive inter-office transport	81	75	62	47
Percentage of BellSouth wire centers with 15,000 or more business lines served by competitive inter-office transport	91	91	86	75
Percentage of BellSouth wire centers with 20,000 or more business lines served by competitive inter-office transport	100	100	100	100

¹⁵⁵ Source: BellSouth.

Table 16 (particularly the lower half of the table) appears to confirm the inferences drawn from Figure 5.

160. Another measure of the ability to self-supply inter-office transport facilities is provided by the count of CLEC operational and on-net networks.¹⁵⁶ Table 1 (in Section III.A) showed the growth of CLECs and CLEC networks within the 33 BellSouth MSAs ranked in the top 150 nationally. Table 17 below summarizes this information in terms of percent changes in the number of CLECs and the number of operational CLEC networks in those 33 BellSouth MSAs and, as well, in three MSA segments.

¹⁵⁶ See *UNE Fact Report*, Section III and Appendix K. It bears remembering that although many of the CLECs counted in the *UNE Fact Report* tables on CLEC networks have declared bankruptcy, they account for no more than 17 percent of the total, and many have already restructured and emerged from bankruptcy. The fiber assets possessed by the CLECs that cease operations are sunk and are, hence, likely to be acquired at low prices by new competitors entering the market.

Table 17. CLECs and CLEC Networks in BellSouth MSAs (Ranked in Top 150), 1998- 2001¹⁵⁷

MSA	Percent Change: CLECs	Percent Change: CLEC Networks
All BellSouth MSAs ranked in top 150	80	100
BellSouth MSAs ranked in top 50	63	77
BellSouth MSAs ranked in 51-100	90	127
BellSouth MSAs ranked in 101-150	108	130

¹⁵⁷ Source: *UNE Fact Report*, Appendix K.

161. Table 1 showed that, except for two MSAs (Baton Rouge and Johnson City-Kingsport-Bristol), the number of CLECs and the number of operational CLEC networks both grew impressively between 1998 and 2001. Table 17 shows that, except in the largest 9 BellSouth MSAs (ranked in the top 50 nationally), the number of CLEC operational networks doubled or more during this period. The fastest growth rates were experienced in the smallest of the 33 BellSouth MSAs listed in Table 1. This is in keeping with the expected pattern of diffusion over time of CLEC networks and network facilities including inter-office transport.
162. The final indicator of the state of competitive inter-office transport is the presence (and count) of alternative suppliers of local fiber in a market, such as fiber wholesalers, utilities, and IXC's with local networks. 13 of the 16 largest MSAs in the BellSouth region now have operational and planned wholesale fiber networks, at least 3 utilities provide fiber in the BellSouth region, and IXC's in the four largest BellSouth MSAs currently supply dark fiber.¹⁵⁸

d. Advanced Services

163. The debate over the Commission's unbundling policies is perhaps at its most intense when it concerns the likely effects of those policies on ILEC investment in advanced services and technologies. There are two diametrically opposed schools of thought on this matter. CLECs believe that the Commission's unbundling policies cannot possibly serve their desired goal unless they are applied equally to *all* ILEC network facilities—not just those from the ILEC's legacy network but also the broadband and next-generation facilities that the ILEC is likely to deploy in response to competition from CLECs. ILECs hold exactly the opposite position, namely, that there can be no greater disincentive to invest in advanced services and technologies than asking them to bear all the risks of such investment by themselves while requiring them to share the fruits of their investment with competitors through TELRIC-based rates.

¹⁵⁸ *UNE Fact Report*, Section III, Tables 5-7.

164. This debate is a logical offshoot of the central question of whether unbundling helps or hurts investment in general by ILECs and CLECs alike. The Z-Tel and AT&T studies discussed above are in that genre. The likely effects of unbundling on ILEC investment in advanced services are, however, deserving of far more analysis than has been accorded to the effects on network investment in general. There are several important differences between the two scenarios.
165. First, the 1996 Act's provisions—and the Commission's implementing policies—clearly intended to make elements of the ILECs' existing *legacy* networks available to competitors. As we stated earlier, implicit in those provisions and policies was the assumed presence of natural monopoly characteristics in those networks, which would make it economically inefficient and wasteful—not to mention inhibit meaningful competition—for competitive entrants to have to invest in duplicative facilities. It is quite another matter to extend those policies to next-generation network facilities for which claims of natural monopoly have not been proven. It is also no small matter to obtain proof of such claims since the ILECs are not dominant in the supply of advanced services and many such facilities have not yet been deployed.
166. Second, as a related matter, ILECs do not possess either a first-mover advantage or any specialized knowledge or technological prowess when it comes to advanced services and new technologies. Indeed, non-ILEC sources can fairly claim credit for several important innovations and advances in telecommunications network technology over the past decade or more. There is no better proof of this than the successful emergence of intermodal competition, indeed the primacy of cable or wireless technologies in certain areas or applications. For this reason, ILEC broadband or advanced technologies can hardly be regarded as essential facilities or sources of CLEC impairment in the absence of unbundling.

167. Third, advanced services are increasingly likely to cannibalize the traditional services offered by ILECs.¹⁵⁹ For example, the advent of digital subscriber line (“DSL”) technology has applied the brakes on ILECs’ “second line” service, and dedicated high-speed connections to packet networks are steadily replacing modem-based connections to circuit-switched networks, while delivering services of equal or better quality to customers. In this environment, ILECs have to carefully fine tune the sequence in which they introduce their new services, and the timing with which they do so. That is, even as competitive developments compel them to shorten the life cycles of existing revenue-earning services in order to introduce replacement services, ILECs have to balance the opportunity cost of failing to introduce those replacements against the need to recoup the significant investments that go into developing successive generations of services. A mandatory unbundling policy that applies to the newer replacement services and technologies would only upset this balance and discourage ILEC investment in them. This is just common sense: the risk-reward trade-off is most pronounced when it comes to developing new services using next generation technologies, and any regulatory policy that enhances the risk quotient without commensurately increasing the rewards can only be inimical to ILECs’ investment incentives.

168. Fourth, there is simply no urgency to extend mandatory unbundling rules to ILECs’ broadband facilities for which robust intermodal competition already exists, a fact that the Commission has itself acknowledged. Citing this very fact, the DC Circuit Court noted the Commission’s own conclusions that (1) cable modems represent the most popular residential broadband service, (2) no competitor has a corner on the market for residential broadband services, and (3) there is no evidence of natural monopoly in the provision of the new advanced services.¹⁶⁰ Clearly, given the Commission’s own

¹⁵⁹ Besides, ILECs also face greater demand-side uncertainty for its advanced services because they have to compete against both alternative offerings from their competitors and their own traditional services (for which established customer bases already exist).

¹⁶⁰ See *DC Circuit Order* citing FCC, *In the Matter of Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996*, CC Docket 98-

stated preference for a demonstration of intermodal competition prior to any grant of unbundling relief for traditional ILEC wireline services, a similar demonstration for advanced services should be reason enough to refrain from imposing mandatory unbundling on ILECs' broadband facilities as well. As the *DC Circuit Order* noted, the Commission has already made that demonstration through a series of annual Section 706 reports.

169. Finally, as the DC Circuit Court also recognized, unbundling policies must ensure fair compensation to ILECs for the network elements they have to provide to their competitors on demand. That compact is clearly violated when TELRIC-based prices for those elements—particularly when provisioned as UNE-P—fail to secure that fair compensation for ILECs. Furthermore, as the *DC Circuit Order* made clear, without a clear and compelling rationale for the impairment standard as prescribed in the Commission's *UNE Remand Order*, it makes even less sense to require ILECs to give parts of their existing networks away without receiving fair compensation. *A fortiori*, this becomes an even stronger disincentive when ILECs are obliged to lease to their competitors parts of their next-generation networks that they are presently in the process of developing. Conversely, intramodal competitors have very little incentive to develop their own matching advanced services and technologies when they are practically assured access to ILECs' advanced networks at bargain-basement prices.

146, Report, released February 2002. Also see a more recent Commission report: FCC, *High-Speed Services for Internet Access: Subscriberhip as of June 30, 2001*, Industry Analysis Division, February 2002. This report (which complies with Section 706 of the 1996 Act) documents that subscribership to high-speed services in the first half of 2001 had reached 9.6 million lines or wireless channels, of which 5.2 million were served by cable companies. In particular, subscribership to advanced services (over 200 kbps in both directions) had reached 5.9 million lines or wireless channels, of which 3.3 million were served by cable companies. All 50 states were being served (for high-speed and advanced services) by non-ADSL, satellite, optical carrier, or fixed wireless technologies, and all but one were being served by coaxial cable systems.

G. Claim: “CMRS Carriers are impaired without the availability of dedicated transport on a UNE basis.”

1. Introduction

170. The Commission seeks comment on whether section 251(d)(2) requires it to take into account the particular “service” that a requesting carrier seeks to offer.¹⁶¹ In particular, the Commission wishes to know whether it would be useful to “conduct unbundling analyses for individual services?”¹⁶² More specifically, the Commission asks whether the level of competition for a particular service should matter for determining the need to unbundle ILEC-offered network elements.¹⁶³ In this context, the Commission invokes the example of CMRS carriers.¹⁶⁴

2. Position of unbundling proponents

171. In response to this inquiry, three CMRS carriers, namely, AT&T Wireless, Nextel, and VoiceStream have filed Initial Comments with the Commission. Their principal arguments and positions may be summarized as follows:

1. CMRS carriers are impaired when ILECs deny them dedicated transport provisioned as a UNE to link their Mobile Switching Centers (“MSCs”) with their base station cell sites.¹⁶⁵
2. CMRS carriers have to rely on ILEC transport provisioned as a tariffed special access service, rather than as a UNE. This compels those carriers to charge higher prices to their end-users and, in the process, causes them to experience competitive harm.¹⁶⁶

¹⁶¹ *NPRM*, ¶37.

¹⁶² *Id.*

¹⁶³ *NPRM*, ¶38.

¹⁶⁴ “[S]hould the particular characteristics of the CMRS market affect the availability of UNEs to CMRS carriers?” *Id.*

¹⁶⁵ This is the central contention of the three CMRS carriers. See *Comments of AT&T Wireless Services, Inc.* (“AT&T Wireless Comments”), *Comments of Nextel Communications, Inc.* (“Nextel Comments”), and *Comments of VoiceStream Wireless Corporation* (“VoiceStream Comments”), in this proceeding.

¹⁶⁶ *Nextel Comments*, at 4.

3. ILECs enjoy an effective monopoly in the provision of transport facilities needed by CMRS carriers.¹⁶⁷
4. Ever since the Commission granted pricing flexibility for ILECs' transport services sold as tariffed special access services, ILECs have frequently raised, rather than lowered, their prices.¹⁶⁸
5. The Commission should not make unbundling rules based on the type of service that a requesting carrier (such as a CMRS carrier) intends to provide.¹⁶⁹

3. Reply to unbundling proponents

172. Under the standards of impairment adopted by the Commission and discussed in previous sections, CMRS carriers are not, and cannot be, impaired by the provision of ILEC transport as a special access service, rather than as a UNE. Moreover, as explained by BellSouth, inter-office transmission facilities such as dedicated transport may only be provided as UNEs to link switches or wire centers.¹⁷⁰ Base stations in CMRS networks do not qualify as either switches or wire centers, and links between them and MSCs do not qualify as dedicated transport.
173. Technical or network issues aside, there are strong economic reasons for denying the CMRS carriers' request for unbundled ILEC transport. CMRS carriers cannot claim to be impaired in the face of clear evidence of their success as intermodal competitors. All of the available evidence points only to one conclusion about CMRS carriers, namely, that several years of strong growth and falling end-user prices have enabled the wireless industry to emerge as a viable intermodal competitor to ILECs and other wireline carriers. Judging by that evidence, the prognosis for continued strength and competitive progress by CMRS carriers remains promising. If, as they claim in this proceeding, CMRS carriers were impaired at the wholesale level without access to ILEC transport at UNE prices, then their remarkable success at the retail level simply

¹⁶⁷ *AT&T Wireless Comments*, at 9; *VoiceStream Comments*, at 3.

¹⁶⁸ *AT&T Wireless Comments*, at 12.

¹⁶⁹ *AT&T Wireless Comments*, at 16-19.

¹⁷⁰ *BellSouth Comments*, at 55.

could not have been possible. Significantly, having to obtain the requisite transport from ILECs in the form of special access services has done nothing to constrain either the growth and performance of individual CMRS carriers or of competition among those carriers.

174. The overall health—and improving prospects—of the CMRS segment of the telecommunications industry is best understood by examining data recently released by the Cellular Telecommunications and Internet Association (“CTIA”). These data, summarized in Table 18, demonstrate that CMRS carriers have performed spectacularly on a number of different indicators.

Table 18. Selected Performance Indicators of CMRS Carriers, 1985-2001¹⁷¹

CMRS Performance Indicators	2001	2000	1985	Annual growth rate (2000-2001)	Annual average (exponential) growth rate (1985-2001)
Subscribers (Reported)	109,674,358	103,641,514	203,600	23.1%	28.9%
Subscribers (Estimated)	118,397,734	97,035,925	203,600	22.0%	39.8%
Revenues (\$ Thousands)	58,726,376	45,295,550	666,782*	29.7%	29.9%*
Gross Investment (\$ Thousands)	99,725,965	76,652,358	588,751	30.1%	32.1%
Direct Employment	186,317	159,645	1,697	16.7%	29.4%

* Annual service revenues measured from June 1986 on.

¹⁷¹ Source: CTIA, *Measuring Wireless Today: CTIA's Semi-Annual Survey*, February 28, 2002, available from http://wireless.fcc.gov/services/cmrs/presentations/Bob_Roche_Feb_28_FCC_presentation.pdf. All data measured in June of various years.

In addition, CMRS carriers' total reported billable minutes-of-use grew to nearly 200 billion in June 2001 from less than 10 billion in June 1992 and less than 50 billion as recently as December 1998.¹⁷² This rapid growth spurt in actual billable usage was made possible by steep declines in prices paid by subscribers for various wireless service plans. That, in turn, has been facilitated by dramatic reductions in the cost that CMRS carriers incur to provide service, competition not merely among themselves but also intermodal competition with alternatives like wireline and Internet-based communication, regulatory change, and rapidly increasing consumer acceptance of the mobility, coverage, and flexibility offered by wireless telephony. Major technological advances and cost reductions have enabled CMRS carriers to both improve service quality and diversify their service offerings. For example, according to one source, the four major CMRS carriers (AT&T Wireless, Verizon Wireless, Cingular Wireless, and Sprint PCS) can now all offer service with a least cost per minute price as low as approximately 10¢ per minute.¹⁷³ That, combined with very generous "free-minutes" allowances, flat-rated pricing, no long distance or roaming charges, and nationwide coverage has positioned CMRS carriers to become a strong competitor to traditional wireline service providers like LECs and IXC's. In fact, it appears that after a period of falling average local monthly bills for CMRS subscribers (coinciding with falling prices for wireless service plans), those local monthly bills have actually trended upward in the last two years.¹⁷⁴ This signifies that rising wireless usage has more than offset the decline in prices to produce new gains in revenues per subscriber.¹⁷⁵

¹⁷² *Id.*

¹⁷³ The Strategis Group, http://wireless.fcc.gov/services/cmrs/presentations/Adam_Guy_FCC_CMRS_Forum.pdf, February 28, 2002.

¹⁷⁴ CTIA, *Measuring Wireless Today: CTIA's Semi-Annual Survey*, February 28, 2002. See *supra*, fn. 171.

¹⁷⁵ All of these trends have been corroborated by the Commission's own efforts at assembling data about the CMRS segment of telecommunications in the U.S. By the end of 2000, wireless telephony in the U.S. experienced an almost 40 percent penetration rate, while over 90 percent of the U.S. population had access to three or more CMRS carriers. See FCC, *In the Matter of Annual Report and Analysis of Competitive Market Conditions with Respect to Commercial Mobile Services*, Sixth Report ("Sixth CMRS Report"), released July 17, 2001, at 5-6. The Commission has also noted the increasing diffusion of digital technology in wireless telephony, the upsurge in competition among CMRS carriers, and average price declines for wireless services of 25 percent in 1999-2000 and 12.3 percent in 2000-2001. *Sixth CMRS Report*, at 6. Also see Table 2 of

175. The spectacular diffusion of CMRS services in the U.S. in recent years acquires a larger significance in the context of overall growth in telecommunications.¹⁷⁶ Recent FCC statistics show that, in July 2001, the subscribership rate for conventional wireline telephony in the U.S. had reached 95.1 percent of all households (or, nearly 107 million households).¹⁷⁷ Unlike wireless telephony, however, the annual gain in the number of wireline-subscribing households has remained relatively flat in recent years, rising approximately 8 percent between 1995 and 2001.¹⁷⁸ However, such flat growth is only to be expected when the subscribership *rate* is already so high (94 percent in 1995 and over 95 percent in 2001).¹⁷⁹ In contrast, a nascent (and now rapidly emerging) market for wireless telephony has prospects for dramatic growth for several more years. To put this into context, it may be noted that at an annual average exponential growth rate of 28.9 percent (see Table 18), wireless subscribership doubles every 2.4 years. At this torrid pace of growth, there can be little doubt that CMRS services have emerged as a strong and viable intermodal competitor (and substitute) for traditional wireline services.¹⁸⁰

176. Finally, the rapid expansion of coverage and the deployment of nationwide calling plans (along with the forbearance of long distance and roaming charges) signifies the ease with which the larger CMRS carriers have managed to entice subscribers looking for the “anytime, anywhere” connectivity traditionally associated with wireline

Appendix C in the *Sixth CMRS Report* for comparable state and national wireless subscribership data. This table shows that six out of the nine states in the BellSouth region (namely, Alabama, Florida, Mississippi, North Carolina, South Carolina, and Tennessee) experienced double-digit (and close to national average) rates of wireless subscribership growth between 1999 and 2000.

¹⁷⁶ Even with the recession and other economy-affecting events in 2001, many analysts expected wireless subscribership growth to remain strong, if not at the level of the previous two years. Lehman Brothers expected new subscribers to total 20.6 million in 2001. See *Technology Review*, April 23, 2002 or http://www.technologyreview.com/offthewire/3001_2342002_1.asp. Another source expected the industry to add only about 17 million new wireless subscribers in 2002. See *Wireless Week*, April 15, 2002, or <http://www.wirelessweek.com/index.asp?layout=story&articleId=LN45M7-F1D0-00H1-03S7-00000-00>.

¹⁷⁷ FCC Industry Analysis Division, *Telephone Subscribership in the United States*, February 2002, Table 1.

¹⁷⁸ *Id.*

¹⁷⁹ *Id.*

¹⁸⁰ See, e.g., the discussion on “Wireless/Wireline Competition” in the *Sixth CMRS Report*, at 32-34.

carriers. The footprints of these carriers now take in not just densely-populated urban areas but extensive stretches of rural areas as well. Some CMRS carriers, in fact, clearly see no handicap in serving rural areas over urban areas, and have as their mission to provide service extensively in rural areas and to become the carriers of last resort—and wireline alternatives—in those areas. For example, in a recent FCC forum, Western Wireless lauded the Commission’s efforts to adopt a “market-based approach to regulation” and acknowledged that the result has been to make “CMRS ... the most competitive segment of the telecommunications industry.”¹⁸¹ Having specialized in serving only rural America, Western Wireless provides wireless services (including wireless local loop service) in 118 MSA and RSA markets, and is a designated eligible telecommunications carrier for universal service purposes in 12 states plus the Pine Ridge Indian reservation. Western Wireless claims to offer “rate plans and service offerings that are competitive with [those] of national carriers serving urban areas” and to offer a mix of CDMA, TDMA, and analog technologies (with GSM contemplated) through its network.¹⁸² Western Wireless’ example serves as a timely reminder that far from being constrained in extending service in supposedly hard or uneconomical-to-serve areas, some CMRS carriers have found it possible to ring up success stories in the marketplace without the need for additional regulation that would enable access to ILEC networks through mandatory unbundling.

177. At the individual CMRS carrier level, it is worthwhile examining the recent history of AT&T Wireless, Nextel, and VoiceStream, the three CMRS carriers that have petitioned the Commission to extend its unbundling rules to ILEC transport facilities. According to Nextel, all three belong to the club of CMRS carriers with national footprints (of which the three other members are Cingular Wireless, Verizon Wireless, and Sprint PCS).¹⁸³ The question that is worth asking is whether there is any indication in the recent financial performances of the three carriers to support the belief that they

¹⁸¹ Testimony of Mark Rubin, Western Wireless Corporation, at the CMRS Public Forum (for the 7th Annual CMRS Competition Report) organized by the FCC’s Wireless Telecommunications Bureau, February 28, 2002.

¹⁸² *Id.*

¹⁸³ Nextel Communications Inc. 10-K filed March 29, 2002, at 16.

have been impaired—as per the Commission’s criteria for impairment—by ILEC transport not being made available as UNEs. After all, whether or not one believes that the CMRS carriers that perform poorly in retail markets must somehow have been impaired at the wholesale stage, the stronger retail performance of more successful CMRS carriers certainly cannot be attributed to any wholesale-stage impairment. Hence, if the performance of AT&T Wireless, Nextel, and VoiceStream has improved steadily over time, then wholesale-level impairment (allegedly caused by the unavailability of ILEC transport as UNEs) cannot possibly have occurred.

178. Table 19 summarizes the recent financial performance of the three CMRS carriers.

Table 19. Performance Indicators of AT&T Wireless, Nextel, and VoiceStream, 1999-2001¹⁸⁴

Carrier Performance Indicator	2001	2000	1999	Percent Change 2000-2001	Percent Change 1999-2000	1Q2002	Annualized 1Q2002
AT&T Wireless							
Total subscribers (000)	18,047	15,163	9,567	19	59	19,500	21,450
Subscribers added (000)	2,928	2,565	1,531			650	2,600
Domestic revenues (\$ mill)	13,610	10,446	7,625	30	37		
Domestic service revenues (\$ mill)	12,532	9,374	6,823	34	37	3,355	13,420
Domestic service revenue per subscriber (\$)	694.41	618.22	713.21				
Cost of domestic revenues (\$ mill)	n/a	n/a	n/a				
Wholesale cost of domestic service revenues (\$ mill)	3,991	3,017	2,531	32	19		
Wholesale cost per subscriber (\$)	221.14	198.97	264.57				
EBITDA (\$ mill)	3,100	1,876	662	65	183	822	3,288
EBITDA margin (%)	24.7	20.0	17.4				
EBITDA per subscriber (\$)	171.77	123.72	69.20			42.15	153.29
Domestic net service revenue per subscriber (\$)	473.26	419.24	448.64				
Nextel							
Total subscribers (000)	8,700	6,680	4,520	30	48	9,202	10,708
Subscribers added (000)	1,990	2,160	n/a			502	2,008
Domestic revenues (\$ mill)	7,014	5,385	3,662	30	47	1,957	7,828
Domestic service revenues (\$ mill)	6,560	4,979	3,222	32	55		
Domestic service revenue per subscriber (\$)	754.02	745.36	712.83				
Cost of domestic revenues (\$ mill)	2,538	1,991	1,486	27	34		

¹⁸⁴ Some of the figures in the table are as reported in financial statements of the three carriers, and others have been calculated from original figures that appear on those statements. The sources for the figures in the table include 10-K filings and annual reports of the three carriers in 1999, 2000, and 2001, and various press releases posted on the web sites of the carriers, as well as analyst comments.

Wholesale cost of domestic service revenues (\$ mill)	1,290	955	n/a	35	n/a		
Wholesale cost per subscriber (\$)	148.28	142.96	n/a				
EBITDA (\$ mill)	1,901	1,395	372	36	275	586	2,344
EBITDA margin (%)	29.0	28.0	11.5				
EBITDA per subscriber (\$)	218.51	208.83	82.30			63.68	218.90
Domestic net service revenue per subscriber (\$)	605.75	602.40	n/a				
VoiceStream							
Total subscribers (000)	4,558	2,908	846	57	244	5,058	6,558
Subscribers added (000)	1,649	2,062	n/a			500	2,000
Domestic revenues (\$ mill)	3,379	1,935	476	75	306		
Domestic service revenues (\$ mill)	2,522	1,283	374	100	243		
Domestic service revenue per subscriber (\$)	553.26	441.19	441.77				
Cost of domestic revenues (\$ mill)	3,876	2,527	598	53	323		
Wholesale cost of domestic service revenues (\$ mill)	758	526	114	44	362		
Wholesale cost per subscriber (\$)	166.24	181.05	136.11				
EBITDA (\$ mill)	(497)	(592)	(121)	16	-388	64 ¹⁸⁵	256
EBITDA margin (%)	(19.7)	(46.1)	(32.5)				
EBITDA per subscriber (\$)	(109.08)	(203.45)	(143.40)			12.65	39.04
Domestic net service revenue per subscriber (\$)	387.02	260.14	306.96				

Note: All entries in the shaded columns are percentages. Entries (in particular, percentages) are subject to rounding. Italicized entries are projected (annualized).

¹⁸⁵ Adjusted EBITDA (excluding incentive bonuses related to the Deutsche Telekom AG merger) was \$75 million. See *T-Mobile International Reports Detailed First Quarter 2002 Results of VoiceStream*, VoiceStream press release, April 25, 2002. Also available from http://www.voicestream.com/about/press/press_20020425.asp.

Explanation of terms:

Total subscribers: the number of subscribers on record as being served by a carrier as of a certain date, e.g., December 31, 2001, or end-of-first quarter, 2002.¹⁸⁶

Subscribers added: (in most cases) the net gain in subscribers during a certain period, e.g., a year or a quarter. In some instances, subscriber gains have occurred through acquisition of other CMRS carriers.

Domestic revenues: revenues earned from all domestic operations (including providing service, sales of equipments such as handsets, etc.).

Domestic service revenues: revenues earned purely from the sale of domestic wireless services.¹⁸⁷

Domestic service revenue per subscriber: the average revenue earned per subscriber from the sale of domestic wireless services.

Cost of domestic revenues: cost to provide wireless services including all wholesale costs, the cost of selling equipment (handsets and accessories) to subscribers, retail costs (selling and marketing), and overhead costs (general and administrative).¹⁸⁸

Wholesale cost of domestic service revenues: wholesale costs to provide wireless services, which include the carrier's own network operation and maintenance costs, charges paid to other carriers for access, toll, and interconnection, and provisions for uncollectible receivables and changes in non-income related taxes.

Wholesale cost per subscriber: average (per subscriber) wholesale cost of domestic service revenues.

¹⁸⁶ For present purposes, this includes subscribers for post-paid services only, irrespective of whether they received analog or digital service. Pre-paid service customers are not included.

¹⁸⁷ For present purposes, only revenues from post-paid service and roamer charges are counted in this category. Revenues from pre-paid services are not included.

¹⁸⁸ Other operating expenses like depreciation and amortization and stock-based compensation are not included.

EBITDA: operating income before income taxes and depreciation and amortization. It is calculated as the difference between *domestic revenues* and the *cost of domestic revenues*, and is commonly used as the primary performance measure of a firm's ability to generate positive cash flow.

EBITDA margin: EBITDA as a percent of domestic service revenues.

EBITDA per subscriber: average cash flow per subscriber.

Domestic net service revenue per subscriber: average (per subscriber) margin between domestic service revenues and the wholesale cost of domestic service revenues.

179. In summary, Table 19 demonstrates the following about the three CMRS carriers:

- All three experienced robust subscriber growth between 1999 and 2001.¹⁸⁹ Despite the 2001 recession and slowdowns in the telecommunications industry generally, 1Q2002 results promise continued subscribership growth at or above three-year trends.
- All three (especially VoiceStream) experienced robust revenue growth (both all and service-only revenues) between 1999 and 2001. This happened despite external economic slowdowns, falling prices for wireless services, and increased competition among CMRS carriers. Actual 1Q2002 performance portends healthy revenue gains over prior periods.
- Service revenue per subscriber has trended up for all three carriers between 1999 and 2001. This indicates that, despite falling prices and more generous pricing plans and allowances, subscribers increased usage substantially to keep revenues rising.¹⁹⁰
- While all three have experienced rising costs (and, in particular, wholesale costs) to provide service, much of that cost increase can be attributed to subscribership growth and expansion of network operations. More significantly, the wholesale costs *per subscriber* of the three carriers have fallen or stayed flat through the 1999-2001 period.

¹⁸⁹ VoiceStream, in particular, experienced a surge in subscribership (almost 244 percent) after it became independent of Western Wireless, its original parent company. Subsequently, VoiceStream was acquired in 2001 by Deutsche Telekom AG, which brought in additional subscribers on the GSM digital wireless technology standard.

¹⁹⁰ Subsidies on handsets may have made it easier for subscribers to take service or increase usage. Despite lower prices for handsets, the total revenues of the three carriers posted healthy gains as well between 1999-2001.

- The most important performance indicator, EBITDA, has trended rapidly upward for AT&T Wireless and Nextel. Although VoiceStream experienced negative EBITDA between 1999-2001, the long-term trend is toward eventual profitability and positive cash flow. In fact, in 1Q2002, VoiceStream posted \$64 million in EBITDA which, despite the indifferent state of the economy, portends well for the carrier's future.
- EBITDA per subscriber has made impressive gains for AT&T Wireless and Nextel, while the negative EBITDA per subscriber for VoiceStream has been attenuated. In fact, based on 1Q2002 experience, VoiceStream could realize almost \$54 in EBITDA per subscriber in 2002. Despite the current sluggish economy, Nextel's EBITDA per subscriber in 2002 is likely to be little changed from the 2001 level, while AT&T Wireless' EBITDA per subscriber in 2002 may slip only a little from its 2001 level.
- After a brief dip in 2001, the domestic net service revenue per subscriber moved up impressively for AT&T Wireless and VoiceStream, while it moved up slightly for Nextel.¹⁹¹

180. Collectively, these "facts" about the financial performance of the three CMRS carriers point to one central fact: there is absolutely no evidence whatsoever that failure to provide ILEC transport facilities at (below-market) TELRIC-based prices caused substantial harm or, in any way, impaired the ability of the three carriers to acquire subscribers or grow despite difficult economic times. Taken together with the overall evidence about the financial performance of the entire CMRS segment of telecommunications, it is very hard to reach any conclusion supportive of the economic case made by CMRS carriers in this proceeding for being able to obtain ILEC transport on an unbundled basis. The only legitimate conclusion that can be reached, however, is that were such an unbundling request to be granted, the CMRS carriers that are already displaying the best performances in the telecommunications industry will only be handed a generous opportunity to augment their already handsome bottom lines.

¹⁹¹ This is an alternative to EBITDA per subscriber. It shows the "margin" earned (before taxes, depreciation and amortization, and other expenses) between service revenues and *wholesale* service costs. If a CMRS carrier experiences significant increases in wholesale costs (such as for interconnection and network facilities it owns or leases from ILECs), then this metric should be most sensitive to those cost increases. In contrast, the EBITDA per subscriber, which is based on *total* revenues and costs, may fail to clearly show the impact of changing wholesale costs.

181. It is important to consider just “how much” impaired the CMRS carriers are likely to be if the claims they have made in this proceeding are, indeed, true. In other words, is there an instrument or scenario that captures the predicament that the CMRS carriers supposedly find themselves in without the benefit of unbundled dedicated transport? Some insight into this question may be gained by examining the capital needs and capital expenditure patterns and priorities of the CMRS carriers. After all, as AT&T Wireless explains it, “... the wireless network relies to a large extent on wireline facilities, and especially on ILEC transport.”¹⁹² In a similar vein, Nextel admits that point-to-point microwave may be a “limited alternative” to ILEC transport, but CMRS carriers cannot be assured of the microwave option to serve its network needs ubiquitously. However, it concludes: “For this reason, Nextel and other CMRS carriers have largely come to rely upon ILECs to provide wired access between cell sites and CMRS MSCs. As a result, self-provisioning of the transport portion of a CMRS network is not common.”¹⁹³

182. While these statements may well demonstrate the central role that dedicated transport plays within a CMRS network (particularly, given the limitations of the microwave alternative), they do *not* sufficiently establish or explain why, from an *economic* standpoint, CMRS carriers cannot feasibly self-provision such transport. Ironically, it *is* clear why, after several years of manifestly successful operations, CMRS carriers have suddenly seized upon an opening provided by the *NPRM* to raise the specter of impairment if ILEC transport is not made available to them as a UNE. To understand why, consider the following claim by Nextel:

... ILEC refusal to provide this transport on terms other than as end user special access leaves CMRS carriers without effective recourse. CMRS carriers must obtain dedicated transport services from ILECs under the terms of special access tariffs or under contracts based on those tariffs. This impairs CMRS carriers not only because they must pay higher rates, but also because there is no statutory

¹⁹² *AT&T Wireless Services Comments*, at 24.

¹⁹³ *Nextel Comments*, at 6-7.

guarantee that the ILEC will provide its services in a dependable, non-discriminatory fashion.¹⁹⁴

183. This is patently a plea by the CMRS carriers to be allowed to obtain dedicated transport facilities from ILECs at prices that are lower (perhaps, significantly so) than those they currently pay for special access circuits. If paying the market-based, albeit higher than TELRIC-based, prices for special access circuits impairs and, specifically, causes competitive harm to CMRS carriers, there is certainly no evidence of it. By their own pronouncements, the CMRS carriers make it clear that business has never been better (despite the recent difficult economic times) and, in information they share with their shareholders, the analyst community, or the public, there is never any complaint about being prevented from achieving their goals (financial and competitive) by the failure of ILECs to provide unbundled dedicated transport.

184. For example, John D. Zeglis, AT&T Wireless' Chairman and CEO, recently offered this upbeat assessment:

AT&T Wireless continued its track record of growth with one of the best quarters of execution ever. We delivered solid gains for the first three months of the year, *despite an increasingly competitive market*. In the first quarter, we gave 650,000 more people an mLife, ending the period with 19.5 million customers, a 24 percent increase over the prior year's quarter, and 2.4 million more customers than we had just six months ago. At the same time, our aggressive programs to retain customers paid off in significant improvements, lowering churn yet again. We also increased our services revenue by nearly 15 percent. And we did it all while continuing a fast-paced deployment of our leading next generation network, which is progressing on schedule and on budget. As of today, we've built our new GSM network in about 60 percent of our footprint, covering a population of nearly 100 million people. We have launched new GSM/GPRS services in 26 major markets with more around the corner. In short, AT&T Wireless is more competitive and is offering our customers more valuable services than we did a year ago. Our network delivers a higher quality of service, our calling plans better meet customer needs, our offers include new advanced services, our target marketing is attracting additional, profitable customers from new segments, and our brand is

¹⁹⁴ *Id.*, at 8. Footnotes omitted.

increasingly trusted to take loyal customers to the next generation of wireless applications and devices.¹⁹⁵

At about the same time, Tim Donahue, President and CEO of Nextel, made the following statement:

I am very excited about Nextel's results for the first quarter. We set very aggressive targets for 2002 and we are on track to *meet or exceed them*. Compared with this time last year, subscribers are up 27%, cash flow is up 66%, and the cash flow margin is up to 32%. Nextel continues to lead the industry in subscriber quality, improve our market share and enhance our cash flow. Past investments in network infrastructure, along with technological advancements, are producing the highest network quality and service levels in our history, allowing Nextel to reduce capital spending and providing us with a clear path to positive free cash flow.¹⁹⁶

Echoing this sentiment, Jim Mooney, Nextel's Executive Vice President and COO stated:

Nextel is achieving financial and operational balance. Nextel is driving our market share higher and, when compared with last year's first quarter, Nextel grew revenue over 22% and added over \$230 million in quarterly cash flow. These results are driven by our industry vertical market segmentation and sales distribution strategies where sales through lower cost channels rose to 20% of total sales. At the same time, we are executing our cost cutting initiatives and strategic alliances aimed at reducing expenses producing an eight percentage point operating cash flow margin improvement over 2001's first quarter. We expect to *continue to reap the benefits of these actions in the coming quarters*.¹⁹⁷

Finally, Kai-Uwe Ricke, CEO of T-Mobile International and Member of the Board of Management, Deutsche Telekom AG spoke about VoiceStream (its U.S. subsidiary) thus:

¹⁹⁵ *AT&T Wireless Services Reports Strong First Quarter Services Revenue Increase of Nearly 15 Percent*, AT&T Wireless press release, April 23, 2002. Also available from http://www.attws.com/press/releases/2002_04/042402.html. Emphasis added.

¹⁹⁶ *Nextel Reports Strong First Quarter 2002 Results*, Nextel press release, April 17, 2002. Also available from http://www.corporate-ir.net/ireye/ir_site.zhtml?ticker=NXTL&script=410&layout=7&item_id=280044. Emphasis added.

¹⁹⁷ *Id.* Emphasis added.

VoiceStream achieved positive EBITDA for the first time this quarter while continuing its very strong subscriber growth. VoiceStream achieved the strong growth in EBITDA by managing its costs carefully. VoiceStream's cost drivers and churn are heading in the right direction while ARPU remains steady.¹⁹⁸

In addition, Robert Dotson, President and COO of VoiceStream, said:

Our Get More subscriber offering continues to be compelling to wireless users. VoiceStream has always been a leader in the consumer market. We are now seeing growth in the business segment as well, which we attribute to our growing national scope, attractive WorldClass International roaming rates with T-Mobile and our competitive advantage of offering the only ubiquitous [sic] high-speed data network (iStream) across our entire footprint. *All of this is leading to continued strong growth for VoiceStream in a highly competitive [sic] market.*¹⁹⁹

185. These confident and celebratory public statements of the most senior officials of the three CMRS carriers do not conjure up a persuasive picture of impaired and competitively harmed entities for which salvation only lies in requiring ILECs to offer dedicated transport on an unbundled basis. While clearly recognizing how competitive the CMRS industry segment is, these officials also identify the particular strengths that their companies have relied on to experience strong growth, namely, investment in new cellular technologies, additional spectrum purchases, product differentiation, new sales channels and marketing strategies, etc. These are not actions of impaired firms, and attempts by the three CMRS carriers to benefit their bottom lines should not be confused with a genuine competitive disadvantage.

186. In the ultimate analysis, the observed choices and actions of CMRS carriers speak louder than words. If dedicated transport facilities are such an integral part of their networks, surely the CMRS carriers would see it in their long run economic interest to replace leased circuits with their own? ILECs do not have a monopoly on fiber or fiber-based facilities. There are no market or regulatory constraints on CMRS carriers acquiring their own facilities. The only likely explanation for their choosing not to do

¹⁹⁸ *T-Mobile International Reports Detailed First Quarter 2002 Results of VoiceStream*, VoiceStream press release, April 25, 2002.

¹⁹⁹ *Id.* Emphasis added.

so (e.g., VoiceStream claims that 96 percent of its circuits linking base stations with MSCs are leased from ILECs²⁰⁰) is that self-provisioning cannot yield significant savings over leasing special access circuits from ILECs. Hence, leasing frees those carriers up to pursue capital expenditures in other parts of their networks, for which economically leased options are *not* available from ILECs.

187. Both AT&T Wireless and Nextel claim to have adequate resources (from their existing cash balances, cash from sales and other operations, and external funds) to finance their capital requirements into the foreseeable future.²⁰¹ Particularly illuminating are the priorities that these carriers have for undertaking capital expenditures. AT&T Wireless' capital expenditures in 2001 reached \$5 billion, of which 20 percent was directed at their nascent GSM/GPRS data network and the other 80 percent went to its existing TDMA network. About the same level of capital expenditure is expected in 2002, with nearly two-thirds now directed toward the GSM/GPRS network. In 2001, AT&T spent \$1.5 billion on next generation network and handset development.²⁰² Significantly, against these large capital outlays and similar spending on acquisitions and other restructuring, AT&T Wireless spent only \$300 million on dedicated transport lines leased from ILECs.²⁰³ This represented only about 7 percent of the nearly \$4 billion that AT&T Wireless incurred in wholesale costs to provide wireless service in 2001.

188. Similarly, in 2001, Nextel's capital expenditures reached \$2.47 billion and was directed primarily toward network construction activity (placement of switches, transmitter and receiver sites, and related equipment), licenses, acquisitions, etc.²⁰⁴ It is not clear how much of that spending was channeled into self-provisioning of dedicated transport facilities. In fact, there seems to be little room for such spending in

²⁰⁰ *VoiceStream Comments*, at 15.

²⁰¹ *AT&T Wireless Annual Report 2001*, at 14; Nextel Communications Inc. 10-K filed March 29, 2002, at 60.

²⁰² *AT&T Wireless Annual Report 2001*, at 15.

²⁰³ *Id.*, at 17.

²⁰⁴ Nextel Communications Inc. 10-K filed March 29, 2002, at 60-62.

the future. Among its capital spending priorities are the construction of additional transmitter and receiver sites, increments to system capacity and maintenance of service quality, installation of related switching equipment, enhancement of mobile network coverage around major domestic market areas, enhancements to the existing iDEN technology to increase voice capacity and improve packet delivery speeds, and the deployment of new technologies. Although Nextel does not explicitly report its actual expenses on leased facilities, there does not appear to be overt concern about how its current spending on those facilities is threatening its ability to compete or offer the services of its choosing.

189. The inescapable conclusion from this detailed examination of the circumstances of the three CMRS carriers is that, apart from experiencing the usual teething troubles of a relatively new but rapidly growing industry segment, they have weathered both economic slowdowns and vigorous competition quite well. The prognosis, far from signifying cumulative competitive harm, remains very hopeful, and the CMRS industry segment as a whole seems intent on diversifying its technological standards and offering even more value-added services based on next generation network technologies.
190. More significantly, the CMRS carriers have entered the Commission-sponsored debate over whether unbundling rules should depend on the types of service being offered more with opportunistic intent than with plain and hard facts to bolster their case. In the absence of any rigorous demonstration of how they have been impaired or competitively harmed by existing ILEC leasing policies, and in the face of incontrovertible financial and performance evidence that run contrary to their claims, the CMRS carriers have failed to make a persuasive case to win unbundled access to ILEC dedicated transport facilities. The generalities that lace their economic arguments (e.g., “ILECs have a monopoly over inter-office transport facilities,” or “tariffed prices of special access circuits have risen since pricing flexibility was granted to ILECs,” or “special access prices cause competitive harm to CMRS carriers”) have no empirical support, and the three CMRS carriers have made no effort to provide any.

The CMRS carriers, or representatives of that industry segment, must have the burden to make their case affirmatively with more tangible and credible evidence. Therefore, we conclude that the circumstances of the requesting carrier—in particular, the services it offers—*should* matter for making an enlightened policy decision regarding ILECs' unbundling obligations.

191. Finally, the CMRS providers fail to address the threshold economic issue: whether mandatory unbundling of network elements should be required to support services other than wireline local exchange service. From an economic perspective, the necessary and impair standard (as well as the essential facility standard in antitrust economics) makes explicit reference to the downstream product or service market involved. In theory, mandatory provision of unbundled network elements or essential facilities involves welfare tradeoffs. Costs and inefficiencies are imposed on the suppliers of the network elements that, in principle, are more than offset by the social gains from the competition in the downstream retail markets made possible by the mandatory unbundling requirement. If there is no gain from new competition in a particular downstream retail market, there is no reason to incur the costs of unbundling to support competitors in that market.²⁰⁵ Thus, because there is likely to be no beneficial increase in competition among CMRS suppliers (or among long distance providers) from making transport available as a UNE (rather than as an ordinary tariffed service), consumers would ultimately be worse off if the unbundling requirements were extended to these markets.

192. This concludes our Reply Declaration.

²⁰⁵ For example, the railroad bridge in the *Terminal Railroad* case was deemed an essential facility because allowing multiple railroads to use it opened up a number of markets in the Mid-West to multiple competitors. That fact does not imply that the bridge owners should make it available to others for fishing or sightseeing because there would be no offsetting social gain from increased competition in those markets.

BELLSOUTH REPLY COMMENTS

CC Docket No. 01-338

July 17, 2002

ATTACHMENT 2

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)	
)	
Review of the Section 251 Unbundling)	
Obligations of Incumbent Local)	CC Docket No. 01-338
Exchange Carriers)	
)	
Implementation of the Local Competition)	
Provisions in the Telecommunications)	CC Docket No. 96-98
Act of 1996)	
)	
Deployment of Wireline Services)	
Offering Advanced Telecommunications)	CC Docket No. 98-147
Capability)	

Reply Declaration of Howard A. Shelanski

I. Facilities-Based Competition Benefits Consumers and Refutes Claims of Competitive Impairment

1. The UNE Fact Report 2002, submitted in these proceedings by Verizon, Qwest, BellSouth and SBC, clearly shows that there has been enormous growth in competitive local exchange facilities in the past three years. Proponents of expansive unbundling contend in their comments that unbundling should be preserved even where competitive entrants are providing their own facilities, are obtaining them from non-ILEC sources, or are competing using competitive services obtained from the ILEC. They argue in addition that emphasis on

facilities-based competition will lead to wasteful duplication of facilities, and that competitive entry is not sufficiently widespread to warrant repeal of any unbundling requirements. These arguments amount to a plea for continued unbundling even where the empirical evidence clearly demonstrates that there is no economic impairment to competitive entry. The Commission should reject such contentions. Instead, the Commission should undertake a market-by-market inquiry that examines competition in specific services and in specific geographic areas. That inquiry will demonstrate that there is in most instances no impairment to facilities-based competitive entry into local exchange markets. Both the Act and sound economic policy weigh heavily in favor of eliminating unbundling in such markets.

- A. There is No Economic Basis For Unbundling Once Entry Without UNEs has Proven Possible
- 2. Some parties argue that unbundling should continue to be available even where facilities-based entry is occurring (*see., e.g.,* AT&T Comments at 254). This argument eliminates any economic meaning from “impairment” and would lead to distortions of competitive incentives. As an economic matter, impairment must at the very least mean that CLECs suffer some disadvantages relative to the ILEC that are sufficiently great that they could tip to the negative a rational CLEC’s decision about whether or not to enter a local exchange market. Impairment must consist of more than the usual challenge of playing catch-up that any new entrant into a mature industry faces.

3. Importantly, the case for impairment is not made by a showing that CLECs merely face some costs that are higher than the ILEC's corresponding costs. As the U.S. Court of Appeals recently held in *USTA v. FCC*, No. 00-1012 (D.C. Cir. 5/24/02), impairment must mean something more than the cost disadvantages that new entrants usually suffer versus incumbents in any industry. From an economic standpoint, new networks will always face some initial expenses that incumbents do not at that same time have to incur, or may initially not share the same economies of scale or scope. Incumbents will already have equipment in place that a new entrant will have to purchase, and may have some economies that entrants do not initially match. Yet economists do not consider such entry costs to constitute a general "impairment" to entry. Initial cost disparities often are discrete and do not persist once entry has occurred. They may also be offset by advantages new entrants may have over incumbents. The firm investing later might get the advantage of more technologically advanced equipment which may erode the effect of any short-term cost difference between entrants and incumbents, and may benefit from other economies such as lower labor costs, the ability to serve larger areas, or to market selectively to the most lucrative segments of the market. Once CLECs have actually installed their own facilities, or once third parties have made such facilities available to CLECs, there is no basis for presuming that any incumbent's cost advantage will persist on a forward-looking basis.

4. Similarly, UNEs should not be required merely on the grounds that entry into a high-fixed-cost industry is risky for a new competitor. In many industries with high entry costs, competitors build facilities and prepare to compete with established firms well before they have any assurance of attracting a single customer. DBS providers did not sell unbundled cable service to develop brand name and a customer base before launching their satellites and building base stations. PCS providers did not rebrand conventional cellular service before spending hundreds of millions of dollars to set up their networks. Airlines like JetBlue, Southwest, and Alaska all made substantial capital outlays in advance of selling a single ticket. The point is that there is no empirical or theoretical basis for the argument that a new entrant must establish market share in advance of building facilities in order to have incentive to make the investments necessary to enter a market. Just because CLECs would *prefer* to build market share in advance of investing in facilities does not mean that absent such a risk-reducing option they would not invest in the capital necessary to compete against the ILECs. In any case, CLECs have other ways of building market share, such as resale or use of tariffed ILEC services, that do not entail all of the potential costs of an unbundling regime.
5. As an economic matter, the CLECs' plea for unbundling to coexist with facilities-based entry would, if granted, distort competitive incentives of both the facilities-based CLECs already in the market and of potential entrants. As I discussed in my initial declaration in these proceedings (at paragraphs 20-25), there are several

reasons that a CLEC might prefer using unbundled network elements to investing in its own facilities even in the absence of impairment. Continued availability of UNEs in the absence of impairment is therefore likely to undermine facilities-based investment.

6. Several commenters have challenged the argument that unbundling may chill facilities-based entry on the ground that facilities-based investment has occurred even where UNEs have been available. The declaration of Professor Kahn and Dr. Tardiff, attached to Verizon's reply comments, addresses these arguments in detail.
7. The fact that facilities-based and UNE-based entry co-exist in a market does not mean that the latter does not affect the former. Indeed, the data support the contention that the availability of the UNE platform (UNE-P) has had an adverse effect on facilities-based investment. The facts on the ground show that facilities-based investment by CLECs is *lower* in states with high volumes of UNE-P than in states with low volumes of UNE-P. AT&T's argument to the contrary (AT&T Brief at 61) is based on an incomplete picture that relies on data from just a few hand-picked states, and in some cases with data regarding only AT&T's own investments, rather than those of CLECs as a whole. As explained in detail in the accompanying UNE-P and Investment Report filed by Verizon, Qwest, Bellsouth, and SBC, AT&T's arguments disintegrate once all available data are considered.

The facts refute AT&T's claims that UNE availability promotes facilities-based entry.

8. Nor should the Commission credit claims by some CLECs that UNEs should be preserved despite facilities-based entry because there is nonetheless impairment for new firms still trying to enter given local exchange markets. As competitors enter on a facilities basis, it is natural that subsequent firms will find entry more difficult. With every new competitor chasing the same customers, the pursuit of those customers becomes less economically attractive to other potential entrants. To argue that UNEs are necessary to allow continued entry even after facilities-based entry has occurred is essentially to ask the FCC for help overcoming impairment that is not due to ILEC incumbency but rather to the increasingly competitive environment of some local markets. Yet to treat the challenges posed by competition as "impairment" is to undermine the very objectives of the Act.
9. Indeed, as more competitive facilities enter the market, unbundling becomes less about impairment to entry against an established incumbent and more about helping successive entrants into an increasingly competitive and therefore challenging environment. Yet such a policy makes no sense because it: (1) punishes earlier entrants into the market, (2) fails to recognize that high fixed cost/low marginal cost industries can only likely absorb a limited number of firms, and (3) ultimately confuses genuine impairment with the lack of an attractive business case. Each of these points warrants some elaboration.

10. First, continued unbundling after facilities-based competition has emerged can punish early entrants by subjecting them to competition from rivals that do not bear the full, risk-adjusted costs of competitive entry and which therefore can artificially undercut the early entrants' prices. The only way this harm can be avoided is if regulated UNE prices are no lower than the level that precisely covers risk-adjusted UNE costs. As discussed in my direct testimony in this proceeding, such accuracy is most improbable as a practical matter. Moreover, any attempt to resolve the potential inefficiencies of unbundling through pricing is particularly unwarranted where market participants have already demonstrated that unbundling itself is not necessary for entry. If firms have found it economically rational to enter a market with their own facilities, unbundling will only foster more entry if regulators make it inefficiently cheaper than—and harmful to—the facilities-based entry that some firms have already shown to be efficient.
11. Second, it is also important for the Commission to take into account the economics of entry into an industry that has high fixed costs and low marginal costs of production. There will not be limitless entry into such markets. It is natural that entry will become more difficult for new firms the more firms have already entered a given local exchange market. To retain unbundling obligations just so that those newer entrants can still provide service would not, however, be sound competition policy. Such continued unbundling would not be based on

impairment to competition, but on “impairment” to particular competitors. Where competition exists, policies that favor particular firms, or classes of firms, which are unable otherwise to compete are likely to create inefficient entry. For that reason antitrust law has long recognized that antitrust injury must be premised on harm to competition, not to particular, would-be competitors.

12. Third, and related to the above point, impairment should not be confused with absence of an economic business case. It may be that some markets, either because the elasticity of demand for the good or service at issue is high enough to keep prices in check, because of existing competition, or because of regulatory factors (such as retail rates set at artificially low levels), provide little incentive for competitive entry. Indeed, the firm(s) that already serves that market may do so at a loss or at least with nothing above a normal profit. New entrants will likely avoid such markets, but not because the incumbents have some advantage that impairs competition that would otherwise occur and benefit consumers. Where such advantages do not exist, unbundling should not be mandated even if no competitors have entered the market. For in such cases it is the weakness of the business case, not the strength of the incumbent, which deters entry.

B. CLEC investment will produce benefits, not waste, for the local exchange market

13. Some commenters in this proceeding have argued that the Commission should not in its inquiry give due weight to evidence of facilities-based entry because such

competition may lead to wasteful duplication of local telephone plant.¹ They thus contend that unbundling should continue as a potentially more efficient alternative even where CLECs have installed their own facilities. The Commission should reject this argument.

14. In order for facilities-based competition to be a net waste, two strong conditions must hold. The parties claiming such waste can demonstrate neither one. First, it must be the case that introduction of new facilities raises the total costs of serving all consumers in the market at issue. Second, it must be true that the benefits to consumers of an additional competitor in the market do not offset the alleged increase in cost created by the new facilities. Moreover, those conditions must hold with respect to specific network elements, not just for an integrated local exchange network as a whole. Unless proponents of extensive UNE regulation can demonstrate that these conditions hold, the Commission should reject their broadside contention that extensive unbundling provides a necessary alternative to “wasteful” and inefficient facilities-based entry. No filing in this proceeding makes that showing and it is most unlikely that either condition holds for most UNEs.

15. Even if one could show that building an entire new, integrated network would be inefficient, it does not hold that building selected new *elements* of a network would be wasteful. It may be, of course, that it would not make economic sense to

¹ ALTS Comments at 18-19, 44-45; Eschelon Comments at 10-11.

build second POTS loops in some areas (although even this is questionable going forward since second “loops” are emerging now in the form of upgraded cable systems and wireless providers). But it does not follow that competitive switching or transport facilities in those same areas would be inefficient. Inefficient duplication must therefore be rigorously demonstrated on an element-by-element and market-by-market basis. Waste of resources by facilities-based competitors is an unlikely economic outcome that cannot be casually bandied about.

16. In addition to being improbable, the duplication argument undermines a fundamental premise of the Telecommunications Act, which is that the scope of natural monopoly in the local telephone network is limited and perhaps nonexistent. As the Supreme Court has explained, the 1996 Act stood as a rejection of the idea that the local exchange was a natural monopoly:

Until the 1990’s, local phone service was thought to be a natural monopoly. . . . Technological advances, however, have made competition among multiple providers of local service seem possible, and Congress recently ended the longstanding regime of state-sanctioned monopolies.²

Congress thus clearly wished CLECs to introduce competitive facilities to the extent it is economically feasible to do so and to limit the natural monopoly portions of the network, if indeed any proved to exist, as much as possible. Broadside allegations that facilities-based competition creates wastefully “duplicative” costs thus fly in the face of the Act’s premises and cannot support

² AT&T Corp. v. Iowa Utilities Board, 525 U.S. 366, 370 (1999).

continued unbundling where competitive facilities have proven economically feasible.

II. Proper Definition of Relevant Markets is Essential to a Correct Determination of Economic Impairment

17. The fact that many new entrants are building their own facilities strongly suggests that some competitors are finding cost advantages—and hence efficiency rather than waste—in building their own facilities. But that efficiency gain is not even the relevant economic point for purposes of unbundling regulation under the 1996 Act. Once competitive facilities actually exist, the relevant inquiry under the Act is what those facilities show about the ability of CLECs to enter the local exchange market without resort to ILEC networks. The evidence presented already in this proceeding strongly suggests that for switching, transport, and high-capacity loops, many competitors find it in their interest to build their own facilities and that doing so creates no impairment to their entry into the local exchange market.

18. Given the diversity of service and market characteristics in local telecommunications today, it is impossible to make a “one size fits all” determination of competitive impairment for local exchange services nationwide. The fact that new entrants may be impaired in providing service in a particular rural market, for example, says nothing about whether that same impairment exists in other, perhaps more densely populated, markets. Moreover, impairment

in providing POTS does not mean there is impairment in providing competitive broadband or special access services. It is therefore essential for the Commission to examine unbundling at the level of specific service and geographic markets and that it define those markets correctly.

19. Correct market definition will not always mean a narrowing of focus. For example, consider broadband services. The Commission has in the past considered whether unbundling is necessary to overcome competitive impairment in the provision of broadband services that compete with the ILECs' DSL offerings. The Commission has concluded that lack of access to unbundled packet switching does not generally create impairment sufficient to warrant unbundling but that lack of access to the upper frequencies of the ILECs' loops does significantly impair competitors. The market for broadband services, properly defined, contains more than just ILEC DSL services and must include intermodal competition from cable modem services and other platforms as well. An economically correct impairment analysis must take into account this competition if it is to advance consumer welfare, and if it is to promote competition rather than simply competitors.
20. For dedicated services like special access or transport, there is also little evidence that unbundling is necessary to overcome any competitive impairment. As the 2002 UNE Fact Report filed in this proceeding demonstrates, there are substantial competing facilities for the ILECs' transport, dark fiber, and high-capacity loop

plant. Competitors needing those facilities have third party suppliers and, moreover, are shown by the evidence to be able economically to build their own facilities to compete with those of the ILECs.

21. In fact, CLECs have been able to obtain special access services facilities from the ILECs themselves even without unbundling. The ILECs provide special access services on a tariffed basis and CLECs as well as IXCs have been taking advantage of those offerings. As an economic matter, if tariffed special access services constitute an effective substitute for a dedicated transport UNE—in this case meaning the CLECs are able to enter and compete using those services—then there is no economic “impairment” if dedicated transport as a UNE is unavailable.
22. With respect to switched local services, the unbundling inquiry should take account of distinctions among specific markets. The economics of competitive entry differ depending on demographic and geographic features of a market. The fact that there may not be as extensive competition in some markets as in others should not suffice to demonstrate impairment so broadly that unbundled facilities must be made in those markets where there are no meaningful barriers to facilities-based competition. It might be that some CLECs choose to target their offerings to particular kinds of customers in a market. But that selectivity should not be confused with impairment in serving other classes of customers. The

equipment CLECs use to serve high-revenue customers can just as easily be used to serve lower revenue customers that the CLEC chooses not to pursue.

23. It is particularly important in the unbundling inquiry that product markets not be defined so narrowly that the competitive analysis ignores substitute services. Just as it would be a mistake to assess unbundling of broadband-related network elements without taking cable modem service into account, it would be incorrect to examine the switched, local service market without considering the competitive impact of wireless service. Is there intermodal competition between wireless and wireline telephone service that renders unbundling of the latter unnecessary? A consumer-oriented and pro-competitive policy depends on such a searching inquiry.
24. The importance of a detailed analysis of impairment on a market-by-market, service-by-service, and element-by-element basis undermines arguments that the Commission should preserve the so-called “UNE-P” or UNE platform. If there is no economic impairment to entering a market without unbundled access to a particular element, then there is no basis for allowing a CLEC to have unbundled access to that element when it is purchased in combination with other elements. Allowing such a UNE platform would turn impairment analysis upside down, and potentially keep all UNEs under the unbundling regime so long as impairment stemmed from any one of them. The likely result will be to deter investment in facilities even where such investment is viable. This cost of preserving the UNE-

P is not offset by any benefit to consumers. The ability of CLECs to purchase ILEC services for resale under the 1996 Act essentially means that no CLEC will be impaired if it does not have access to the UNE platform. So the Act provides alternative routes for the benefits that the UNE-P is supposed to yield.

25. Finally, even in those markets where competitive entry has not occurred, it is important for the Commission to determine whether the absence of competition is due to impairment or to the lack of a compelling business case for new firms, as already discussed above.
26. A market-by-market examination that takes into account the evidence of impairment for specific services and geographic areas will lead to a more efficient unbundling regime and to local exchange markets that better serve consumers. As the evidence presented in this proceeding clearly demonstrates, CLECs face no impairment in entering many markets using many, if not all, of their own facilities. There is no sound economic reason to continue unbundling in such markets just because in some other markets the Commission finds that there is impairment without access to those same elements.

III. Changes in the Economy should not Affect the FCC's Unbundling Decisions.

27. The Commission should not use unbundling as a tool to counteract the economic cycle that has caused the recent shake-out in the telecommunications industry.

Although I do not here purport to undertake a rigorous analysis of the different causes of that shake-out, it is quite clear that firms (even large incumbents in various sectors) are facing hardship that has nothing to do with competitive impairment. Over-investment, large debt burdens, unwise business expansion, incorrect demand predictions, and technological change have all been major factors in the current industry shakeout.

28. Policies that promote continued, rapid entry for its own sake or that artificially maintain viability for failing firms are likely to have counterproductive effects in the current environment, for several reasons. First, any policy that provides a safety net or entry path for firms whose business plans are weak will ultimately exacerbate the problem of firm failures. Second, such a policy will harm those competitors that are proving to be sound and enduring through the economic cycle and that have made the strategic decisions necessary for long-term survival. Third, the Commission should not add to the ILECs' unbundling risks by making the obligation to provide UNEs at all contingent on economic cycles. Indeed, the economic downturn affects not only CLECs, but the ILECs too, so relative impairment does not necessarily change with economic downturns. But even if relative impairment does change temporarily, it makes no sense to add burdens to the ILECs during a period of economic vulnerability in order to prop up firms that have not proven viable.

29. In sum, shake-outs are a normal and inevitable event in the life of any industry. They are particularly likely where, as here, there has been the potent combination of major regulatory change, radical change in technology, and significant changes in the nature and volume of consumer demand. The Commission should not interfere with natural shake-outs that market changes bring by using unbundling to provide a safety net for firms whose business plans proved weak or who simply have not proven sufficiently efficient and competitive to survive changes in the economic cycle. Using UNE policy to preserve firms that have not proven viable will harm those competitors that are surviving the changing economic cycle in telecommunications and risks rewarding and perpetuating the inefficiency of those firms that otherwise would have and should have left the market.